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Environmental Trust Funds An Evaluation

Rivus, Inc.

Prepared For
Environmental Protection Agency

July 1974

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Appendix D

ENVIRONMENTAL TRUST FUNDS: AN EVALUATION

by

RIVUS, INC.

JULY 1974

FINAL REPORT

REPRODUCED BY
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This Report was prepared in response to Section 317 of the Federal Water Pollution Control Act Amendments of 1972, in which the Administrator of EPA was directed to continue to investigate and study the feasibility of alternative methods of financing the costs of water pollution abatement.

In an effort to be responsive to current Congressional interests, the basic options that were studied were: (1) improvements to the existing Contruction Grants Program, (2) an Environmental Trust Fund, and (3) an Environmental Loan Program. The analysis does not address the management of the Construction Grants Program. The Report is concerned with economic/financial alternatives.

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PREFACE

Pursuant to Section 317(a) of the Federal Water Pollution Control Act Amendments of 1972 (Public Law 92-500), the U. S. Environmental Protection Agency is required to "investigate and study the feasibility of alternate methods of financing the cost of preventing, controlling and abating pollution .... including, but not limited to, the feasibility of establishing a pollution abatement trust fund". This report represents one aspect of that investigation, that directed specifically to the issue of a pollution abatement trust fund, or, as it is described here, an environmental trust fund.

This report was prepared by RIVUS, Inc., 113 Thomas Road, Glen Burnie, Maryland, 21061.

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SECTION I

SUMMARY AND CONCLUSIONS

INTRODUCTION

Section 317 (a) of the Federal Water Pollution Control Act Amendments of 1972 states:

> The Administrator shall continue to investigate and study the feasibility of alternative methods of financing the cost of preventing, controlling and abating pollution as directed in the Water Quality Improvement Act of 1970 (Public Law 91-224), including, but not limited to, the feasibility of establishing a pollution abatement trust fund. The results of such investigation and study shall be reported to the Congress not later than two years after enactment of this title, together with recommendations of the Administrator for financing the programs for preventing, controlling and abating pollution for the fiscal years beginning after fiscal year 1976, including any necessary legislation.[1]

The Environmental Protection Agency has initiated a series of studies pursuant to these provisions of the Act. The study described in this report investigated certain of the economic, fiscal, legal, administrative, and institutional aspects of alternate financing arrangements,

[1] Federal Water Pollution Control Act Amendments of 1972, 86 Stat. 816 enacted as Public Law 92-500 (Hereinafter cited as 1972 Amendments).

with emphasis on those utilizing trust funds. The Construction Grant Program, which currently accounts for more than 85 percent of the Agency's annual budget authority, provided the framework for the analysis.

SUMMARY

The research methods employed are described in Section II. Financing arrangements are broken down into constituent elements, and each element is analyzed with respect to program goals, using specific criteria. These evaluation criteria are described under separate headings of efficiency, equity, income distribution, feasibility and effectiveness.

Section III reviews the history of the Construction Grant Program, describes its current financing arrangement, and presents a short statement of program goals. The individual elements of financing arrangements are defined and analyzed in Section IV. Their applicability to the Construction Grant Program is discussed, and documentation of related applications, court decisions, and published analyses is used to predict their performance, as far as possible.

Based on the results of this analysis, six alternate financing arrangements, including the present financing scheme, are described and analyzed in Sections V and VI. Section V presents three candidate financing arrangements which incorporate a conventional trust fund as one of their elements. The Section concludes with some general remarks on the characteristics of trust funds. Section VI analyzes the existing financing arrangement (first described in Section III), "open" trust funds, and presents an off-budget financing method which employs a trust fund in a non-conventional manner. Detailed analyses of specific issues appear as appendices.

CONCLUSIONS

1. Certain of the economic aspects of the present Construction Grant Program financing arrangement have been reviewed. With respect to economic efficiency, the use of general tax receipts may be inconsistent with the benefit theory of taxation, but incentives created for efficient allocation are not noticeably different from those associated with other Federal sector programs. Depending upon assumptions made concerning the nature of program benefits and the incidence of program costs, the practice of incurring the full cost of grants at the time of construction raises questions concerning inter-generational equity.

   The effects of the present financing arrangement upon income distribution were not analyzed. Instead, the present arrangement was used as a benchmark for comparison of the expected distributional effect of alternatives.

   If the effectiveness of a financing arrangement is defined as its ability to insure an adequate supply of funds for program needs, the present arrangement must be judged effective. If the grant program as it now exists is found to be deficient in scale or momentum, the cause of the deficiency evidently lies outside the sphere of financing arrangements.

2. Replacement of the present financing arrangement with one incorporating earmarked tax receipts and an Environmental Trust Fund would confer certain relative advantages and disadvantages. On the positive side, if an opportunity is sought to legislatively re-structure the Construction Grant Program, the establishment of an

Environmental Trust Fund would offer a coherent framework for consideration of all aspects of the program under one title, and can be expected to result in a legislative package with a generally favorable public image.

On the other hand, the implementation of an Environmental Trust Fund could worsen certain economic effects of the program. For example, the use of earmarked general taxes as revenue sources tends to distort allocational decision-making since the opportunity cost perceived by participants in the appropriations process tends to be less than that attached to other public funds. This follows from the limited purposes for which earmarked funds may be appropriated.

On balance, we find no net advantage for an Environmental Trust Fund at the present time. This conclusion is presented in greater detail in Section V.

3. Despite our findings, other factors may lead to consideration of an Environmental Trust Fund. In such a case, a financing arrangement can be postulated which combines the Construction Grant Program with the program of the Environmental Financing Authority and satisfies the evaluation criteria used in this study. This arrangement provides for public decision-making in a pseudo-private market atmosphere, tends to promote efficient private decisions concerning the use of municipal wastewater systems, and permits future changes in the Construction Grant Program without unnecessary disruption and accompanying loss of incentives for local participation.

This proposal may incorporate the following features:

a. Benefit-related taxes (user fees, effluent charges, etc.), where feasible, have important advantages from the standpoints of equity (under the benefit principle of taxation), income distribution, and (with a properly designed financing arrangement) allocational efficiency.

b. The use of debt receipts to finance grants, followed by debt repayment from tax receipts over the life of project benefits, may improve intergenerational equity, result in improved income distribution, and (in the case of excise-type taxes) increase allocational efficiency. These conclusions are, however, critically dependent upon the assumptions made concerning the nature of program benefits, their incidence throughout the population and over time, and the nature and incidence of program costs. The implications of alternate assumptions are discussed in Appendix A.

SECTION II

METHOD OF EVALUATION

GENERAL

The term "financing arrangement", as used in this study, describes the inter-relationship existing among taxpayers, the various branches and agencies of government, and the beneficiaries of a specific government program. The nature and complexity of the relationship is determined by legislation, regulation, custom, institution, expectations, and by unidentified forces. A comparative evaluation of alternate financing arrangements must inevitably treat a host of issues, some clearly focused, some hazy, others only peripheral to the subject at hand.

The implications of financing arrangements for government programs are so pervasive, the objectives of affected parties so different, and the cause-and-effect relationships so poorly understood, that any attempt to prepare an exhaustive list of related issues is predestined to failure. Similarly, the identification of detailed criteria for use in the analysis of the various issues must be somewhat less than comprehensive. The subjects to be covered lead the analyst into various specialities within the fields of law, economics, financial management, administrative science, and political science. To add to the difficulties, the related disciplines have little in the way of common methodology or lexicon.

Although infinite variations are possible, financing arrangements can be described in terms of certain general features. The major features which might be considered in a financing scheme for the Construction

Grant Program of the Environmental Protection Agency are described in Section IV. These features, grouped under five headings, are the framework for this study.

Each financing arrangement feature, or element, can be examined in isolation to some degree. If the goals of the program are known, and the relevant criteria for evaluation understood, the general characteristics of the feature can be predicted. This analysis is augmented by a review of the performance of financing arrangements for other programs which contain similar features. Features which are clearly inferior are discarded, and those which appear to possess desirable characteristics are retained.

The last step of the analysis requires that alternative financing arrangements be postulated, based on the evaluation of individual features. Each alternate scheme can be evaluated by the same criteria, now applied to the total effect of all component elements. The existing financing method employed for the Construction Grant Program is evaluated in similar fashion and compared to the postulated alternatives. The conclusions and recommendations presented in this report are derived from this evaluation and comparison process.

Within the framework of this general approach, a number of individual investigations and analyses have been carried out, using the tools of several professional disciplines. Specific economic issues were subjected to conventional economic analysis in order to delineate relationships essential to the overall evaluation. The narrative of this report subsumes the results of these analyses without comment. Legal research was required to substantiate simple declarative statements in a number of instances. Description and documentation of such research does not appear here. Much of the investigation into administrative and institutional aspects of issues discussed will not be apparent in the following discussion. The report attempts to mold the results of

dissimilar investigations of a broad and ill-defined subject into a readable and informative account, without unnecessary detail.

EVALUATION CRITERIA

Efficiency

An increase in the level of any government program or service can be presumed to produce benefits for certain members of society. Every expansion of output requires, however, the withdrawal of resources from the production of other goods or services. Thus a cost accrues to the would-be consumers of the foregone goods or services. This lost benefit is termed an opportunity cost, and is defined as equal to the benefits obtainable if the resources were employed in the most valuable alternate use.

The normative concept of efficiency requires that resources be allocated throughout society such that the excess of benefits over costs is maximized, where both benefits and costs are those perceived by society as a whole. It can be shown that this objective is achieved when levels of all productive activities are adjusted such that the benefit associated with the last unit of resource invested is the same for each activity. When this condition is met, marginal benefit is equal to marginal opportunity cost, since any alternate use produces the same marginal benefit.

Various institutions exist for the purpose of assisting society in the pursuit of efficiency. In the private sector, the price system tends to equalize marginal benefits and costs, although it functions imperfectly in many respects. In the public sector, the most notable single mechanism for promoting efficient allocation of resources is the budgeting process. Although complex and imperfect, it does tend to make marginal benefit and marginal opportunity cost loosely equivalent.

Unfortunately, due to rigidities in the manner in which resources are

transferred between the public and private sectors, opportunity costs perceived within the two sectors are not ordinarily found to be equal. Instead, there exists at any one time an opportunity cost for public resources and an opportunity cost for private resources, neither of which is necessarily equal to the true opportunity cost of society's total resources.

Resource allocation in the public sector is achieved by the countless individual decisions of persons in the bureaucracy, the Executive Branch, and the Congress. These decisions are made on the basis of information available to each individual and are conditioned by incentives as perceived by that individual. Alternate financing arrangements differ in their ability to produce and disseminate information relevant to rational resource allocation ("signals"), and in the incentives which they provide for rational behavior.

For these reasons, and due to the complexity of the subject, no clear ranking of alternatives can be achieved on efficiency grounds. Instead, features and schemes which are clearly perverse can be identified and eliminated, and the remaining possibilities compared in a qualitative manner. Among the factors to be considered is the extent to which various alternatives contribute to consideration of full social opportunity costs and social benefits, rather than those accruing to specific groups only. Whether the relevant opportunity cost of a program is that prevailing in the public or the private sector is an important consideration, but more important, perhaps, is the opportunity cost actually perceived by decision-makers.

Equity

Another derivative principle of social welfare is that of equity--equals should be treated equally. Conventionally, this principle is taken to mean that members of groups occupying similar niches in society should receive similar treatment. Certain groups should not be required

to pay for programs when groups in similar positions are exempt; program benefits should not be made available to one group and withheld from another which is, in some sense, equal. Ideally, the principle would extend to individual members of groups, insuring equal treatment on an individual basis. Unfortunately, available means of collecting revenue and of distributing program benefits have been much to inflexible and unresponsive to offer much promise for true individual equity with respect to government programs.

Analyses of equity effects require certain basic assumptions regarding the basis for judging groups "equal". Different approaches are possible, and they may lead to different conclusions. Two such approaches, widely used in the study of taxation, are the "benefit principle" and the "ability-to-pay principle." Under the benefit principle, equity is satisfied when those who receive the benefits of a government program pay the costs in proportion to benefits received. The ability-to-pay criterion holds that those who have the ability (measured, for example, in disposable income) to pay the costs of a government program should bear cost in proportion to that ability. Identification of the appropriate viewpoint requires knowledge of the nature and incidence of <u>all</u> program benefits and costs, the nature of the allocational decisions made within government, the behavior of various income re-distributional means available, and perhaps even the social welfare function.

These considerations are beyond the scope of this study and will not be addressed here, except to note that the authors view the benefit principle as being more generally relevant to an analysis of the Construction Grant Program.

Equity considerations may also arise where groups consist of members of succeeding generations. Problems of inter-generational equity occur most frequently when the members of one generation must bear costs to provide benefits to future generations. Although, as before, conclusions are dependent upon assumptions regarding the nature and incidence of all

costs and benefits, the identity o the groups considered, and other basic considerations, any program which provides significant future benefits should be examined in this respect. The effects of certain key assumptions upon the expected incidence of costs, and the ability of financing arrangements to shift costs, are discussed in Appendix A.

Income Distribution

It is a commonplace observation that society's resources are distributed unequally among its members. It is equally evident that distributions of income must exist which would be preferable to the one existing at any moment. Beyond this point, however, there is little agreement, even among students of welfare economics. The criteria available for identifying "better" or "worse" income distributions are so general and so dependent upon simplifying assumptions as to be virtually useless in evaluating distributional effects of actual programs.

Instead, we must resort to a few rather simplistic concepts. Taxing proposals can be regarded as either progressive or regressive with respect to income. Benefits from government programs may be distributed progressively or regressively with respect to income. Both progressive taxes and regressive benefits tend to transfer income from rich to poor, a result which may be found desirable. Where such deliberate transfers are indicated, selection of the financing method offers one means of achieving them. As a general rule, however, it is considered desirable to re-distribute income by means of a program designed specifically for that purpose (public assistance, social security, revenue sharing, unemployment compensation, etc.) and to avoid financing arrangements for other programs which have significant re-distributive effects.

Effectiveness

Effectiveness can be defined as the ability to produce a desired effect.

No financing arrangement will be considered which does not possess, in some measure, the ability to finance the program in a manner consistent with program goals. Several ambiguities creep in, however.

The exact manner in which a program is desired to be financed can seldom be specified. Programs have general objectives and, as a consequence of those objectives, immediate goals. The immediate goals may create certain financing requirements, but they may also be capable of achievement in various ways, each with its own financing requirement. It may be difficult to distinguish among financing alternatives on grounds of effectiveness when only a range of possible requirements is known.

Even where financing requirements can be stated with precision, the relative abilities of alternate financing arrangements to satisfy the requirements cannot. Since a financing arrangement consists of a relationship among individuals and institutions having dissimilar, often divergent, motivations, even the relative ability of alternate arrangements to meet specific requirements can only be predicted in a probabilistic sense.

The application of an effectiveness criterion to financing features, then, will lead to disqualification of all possibilities which can be judged unlikely to meet program goals. The remaining features will be incorporated into alternate financing schemes which can be crudely ranked on the basis of effectiveness.

Feasibility

The final category of evaluation criteria to be discussed concerns feasibility. It was noted above that no financing scheme which is not, to some degree, effective would be considered. Once judged to be adequately effective, alternatives can be compared in the light of various criteria based on allocative efficiency, equity, and income distributional considerations. No matter what the results of this comparison, however, no alternative can be recommended unless it is judged to be feasible.

Feasibility is a multi-dimensional concept. First of all, a financing alternative must be politically feasible. It must be capable of attracting sufficient support on political grounds to secure passage of the necessary legislation. Since many programs compete for political support, those which obtain it are evidently those most likely to generate maximum aggregate political benefits. If the political decision-making process is presumed to be maximizing one, a political "opportunity cost" is implicit in the decisions that are made. Alternatives which are politically feasible are those which promise political benefits in excess of political costs.

Even with political support, a financing scheme must possess legislative feasibility. In broadest terms, this means it must be constitutional. Interpretations of the Constitution vary, however, and the Congress routinely avoids certain legislative techniques for reasons which may be closer to tradition than they are to constitutionality. Accordingly, legislative feasibility can be defined in terms of the range of existing, functioning legislation, including certain obvious extensions. Financing features which have no successful precedent in the law, then, must be considered with caution.

Once enacted, a financing scheme must be implemented. This raises questions of administrative feasibility associated with fiscal management, agency organization and administration, program management, and, in the case of new taxes, revenue collection. Once again, the major criterion must remain comparison with successful precedents. Frequently, the feasibility of an unique proposal must be imputed from the experience of successful related schemes, or, occasionally, from the experience of unsuccessful schemes, but conclusions drawn from this type of comparison will be used cautiously.

SECTION III

THE CONSTRUCTION GRANT PROGRAM

HISTORY

The Construction Grant Program of the Environmental Protection Agency provides Federal financial assistance to municipal, intermunicipal, State, and interstate agencies for the planning, design, and construction of municipal waste water treatment facilities. Although Federal aid was available to the States for pollution studies and to assist in planning pollution control programs from 1948 (under P. L. 80-845)[2], the practice of making direct grants to State and local governments for the construction of pollution control facilities did not begin until 1956 with the enactment of P. L. 84-660[3]. This Act, which was originally reported by the Committee on Public Works of the House of Representatives, authorized $500 million in construction grants for Fiscal Years 1957-1966. Communities constructing waste water treatment facilities could request up to 30 percent of construction cost, not to exceed $250,000, in Federal aid. Administration of the program was vested in the Surgeon General and the Public Health Service

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[2]Water Pollution Control Act (1948), 62 Stat. 1155, enacted as Public Law 80-845.

[3]Water Pollution Control Act Amendments (1956), 70 Stat. 498, enacted as Public Law 84-660.

In 1961, the enactment of P. L. 87-88 increased the maximum Federal grant to a single community to $600,000 ($2.4 million for intermunicipal projects) and authorized total grants up to $570 million for Fiscal Years 1962 through 1967[4]. Administration of the program was transferred from the Surgeon General to the Secretary, Department of Health, Education, and Welfare. Otherwise, the Construction Grant Program remained much as it had been since 1956.

By 1965, public awareness of the need for improved water pollution control was growing noticeably, and Congress enacted the Water Quality Act of 1965[5]. The Construction Grant Program was significantly revised and previous authorizations for Fiscal Years 1966 and 1967 were increased to $150 million each year. The Federal Water Pollution Control Administration was created to administer the new program under the aegis of the Department of Health, Education, and Welfare. In May, 1966, Reorganization Plan No. 2 transferred the agency to the Department of the Interior.

A major re-evaluation of the financing requirements of the Construction Grant Program was signalled by the enactment of P. L. 89-753, The Clean Water Restoration Act of 1966[6]. By this time, the maximum Federal share of construction cost, where the State met certain cost sharing and planning requirements, had risen to 55 percent. Appropriations for Fiscal Years 1968 through 1971 were authorized up to $450 million for 1968, $700 million for 1969, $1 billion for 1970, and $1.25 billion for 1971. Meanwhile, after a brief interlude as the independent Federal Water Quality Administration, the Federal Water Pollution Control

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[4]Water Pollution Control Act Amendments of 1961, 75 Stat. 204, enacted as P. L. 87-88.

[5]Water Quality Act of 1965, 79 Stat. 903, enacted as P. L. 89-234.

[6]Clean Water Restoration Act of 1966, 80 Stat. 1246, enacted as P. L. 89-753.

Administration was merged into the newly formed Environmental Protection Agency in July, 1970.

The most thorough revision of the Construction Grant Program occurred with the enactment of P. L. 92-500[7]. Conditions for grant eligibility were extensively modified, the Federal share was increased to a maximum of 75 percent of project costs, and the authorized level of Federal funding was greatly increased. The 1972 Act provided for budget authority of $5 billion for Fiscal Year 1973, $6 billion for 1974, and $7 billion for 1975. Furthermore, the Act granted contract authority in these amounts, permitting the agency to award grants prior to actual appropriation.

FINANCING

The financing arrangements for the Construction Grant Program of the Environmental Protection Agency, as provided by P. L. 92-500, are straightforward. Briefly, general receipts from existing taxes are credited to general Federal funds. Through the Environmental Protection Agency, an independent agency, contract authority provided by law is allotted to the various States. Obligations may then be incurred against the allotted contract authority. As outlays occur, the Agency seeks appropriations to liquidate the obligated contract authority. The program is operated on a pay-as-you-go basis with the full Federal share of construction costs paid during the construction period.

Section 205 of the Act provides that the contract authority authorized for each Fiscal Year becomes available upon allotment to the various States by the Administrator of the Agency. This allotment must occur not later than the following dates:

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[7]1972 Amendments

Authorization for:	To be allotted not later than:
F. Y. 1973	November 17, 1972
F. Y. 1974	January 1, 1973
F. Y. 1975	January 1, 1974

Authority not so allotted by the Administrator evidently lapses. Authority allotted but unobligated within one year after the close of the Fiscal Year for which allotted may be re-allocated before lapsing.

Prior to the enactment of the 1972 Amendments, budget authority was provided annually by the normal appropriation process, subject to authorized limits contained in various substantive legislation. Figure 1 traces the history of authorizations to the Construction Grant Program, showing cumulative authorizations for the period 1957-1975. Authorization for the last three years of this period refer to contract authority, as described above. Figure 1 also shows the cumulative appropriations actually made against prior authorizations up to Fiscal Year 1972. For Fiscal Years 1973 to 1975, cumulative allotments of contract authority are added to the total appropriations. Examination of Figure 1 reveals that actual budget authority has lagged behind authorized program levels throughout the recent history of the program. At the end of Fiscal Year 1971, when the 1972 Amendments were being considered, cumulative appropriations came to not more than 72 percent of total authorizations. Following the initiation of the contract authority mode of financing, responsibility for the final determination of budget authority levels moved from the Congress to the Executive Branch. Yet, by Fiscal Year 1975, cumulative budget authority is only 61 percent of total authorizations.

The total budget authority available in each year is plotted on Figure 2, together with yearly obligations and outlays. It can be seen that obligations followed budget authority rather closely through 1971, with seldom more than a one-year lag between available authority and obligations at the same level. In 1972, while the program was undergoing

FIGURE 1

CUMULATIVE AUTHORIZATIONS AND APPROPRIATIONS
FOR CONSTRUCTION GRANT PROGRAM: 1956--1975

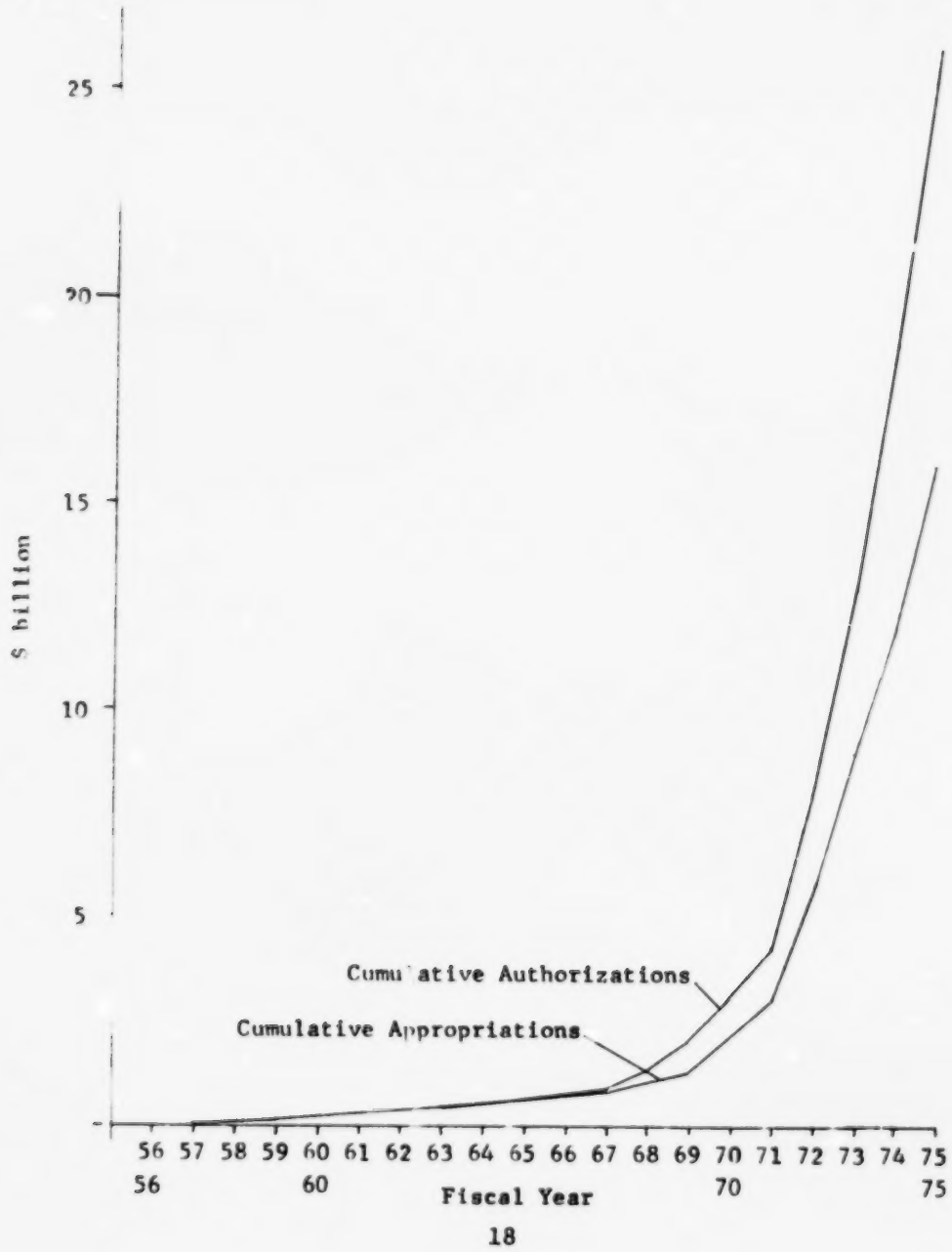
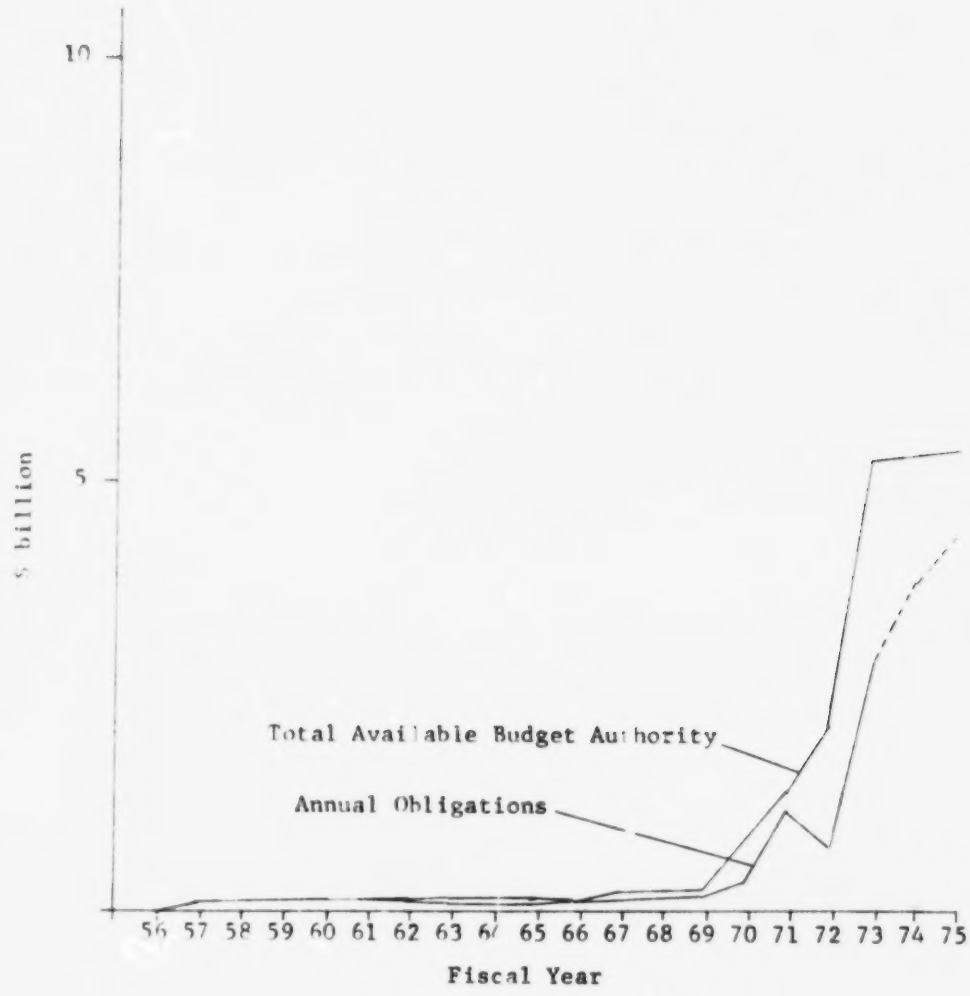


FIGURE 2

AVAILABLE BUDGET AUTHORITY AND ANNUAL OBLIGATIONS FOR CONSTRUCTION GRANT PROGRAM: 1956--1975


10
5
billion
Total Available Budget Authority
Annual Obligations
56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75
Fiscal Year

legislative re-structuring, obligations fell sharply. They rose again in 1973, and are expected to rise further in 1974, but at a rate much below that of the increasing level of budget authority. The lag has widened to almost two years as of Fiscal Year 1974. Since contract authority under the present law is only available for 36 months after allotment, further increases in budget authority may result in some portion lapsing. This event can be avoided, of course, by a major acceleration in the rate of obligation.

PROGRAM OBJECTIVES

Public Law 92-500 was enacted 'to restore and maintain the chemical, physical, and biological integrity of the Nation's waters"[8]. The Act also states that it is the policy of Congress, in this connection, to provide "financial aid to State and interstate agencies and municipalities in connection with the prevention, reduction, and elimination of pollution"[9]. Specifically, the Administrator of the Environmental Protection Agency is authorized "to make grants to any State, municipality, or intermunicipal or interstate agency for the construction of publicly owned treatment works"[10].

The general objective of the Construction Grant Program, then, is to "restore and maintain the.... integrity of the Nation's waters", by means of financial aid to State and local agencies for the purpose of constructing waste water treatment facilities. A key question is the exact nature of the relationship between the financial aid provided under the Act and measurable progress toward the stated objective. An analysis of this relationship would require careful study of the effect of municipal waste water management practices on water quality, as well as the

[8]1972 Amendments

[9]Ibid.

[10]Ibid.

effect of the Construction Grant Program on municipal practices. These investigations are outside the scope of the present study, so it must be assumed that the program makes positive marginal contributions to the stated objective at all funding levels now contemplated.

If it is further assumed the positive marginal benefits exceed, in terms of social value, the associated marginal costs of the program, the short run objective must be to expand the size of the program--increase the rate of obligations. Obviously, even if the above assumptions are true, some point will be reached where the benefits no longer outweigh the costs, where the program has reached its optimal size. The analyses required to determine this optimal level are also beyond the scope of this study, so we assume that suitable steps will be taken by the Agency or by Congress to halt the growth of the program at this point, even to reduce it should the need decrease.

A major characteristic of the present program that bears upon the formulation of objectives is its reliance upon local initiative. No grant can be awarded unless State and local agencies have conceived and planned an eligible project, have met the various requirements of Agency regulations, and have submitted a grant application in proper form. Although the Agency has the regulatory power to require that specific waste water management objectives be met, the State and local agencies retain, in general, considerable latitude in their manner of compliance. Therefore, the incentives provided by the program to potential grant applicants must be considered in the formulation of program objectives.

With these qualifications and assumptions, then, the goals of the Construction Grant Program can be stated for the purpose of this study.

The general objective of the program is to contribute to the restoration and maintenance of the physical, chemical, and biological integrity of the Nation's waters.

The immediate goals of the program are:

1. To maximize the level of annual obligations, subject to the limitations provided by law, in the absence of any explicit decision to the contrary.
2. To provide incentives to State and local agencies to contribute to achieving the above goal.
3. To provide for a smooth and orderly transition should program goals be modified by Congressional, Executive, or Agency action.

SECTION IV

FINANCING GOVERNMENT PROGRAMS

THE FINANCING PROCESS

All government programs can be said to share certain characteristics: they are established by an act of Congress; they are implemented by an agency of the Executive Branch of government, or by a public corporation created by Congress; they obtain their funds from sources and in a manner designated by Congress. At this point, however, the similarity ends. The characteristics of specific government programs vary widely as a result, in part, of the way in which Congress discharges its basic obligation to create and finance them. In the case of existing programs, the financing process is Congress' principal opportunity for modifying program characteristics.

The United States Constitution states that "No money shall be drawn from the Treasury but in consequence of appropriations made by law...."[11]. It also vests in Congress sole power to raise revenues by means of taxes, placing certain restrictions on the use of this power. Within these limitations, Congress has wide latitude for variation and innovation in the financing of government programs. Since 1789, and particularly in this century, financing schemes have proliferated, each one tailored to the requirements of a particular program and to the desire of Congress with respect to that program. A review of past Congressional actions

[11]United States Const. Art. I, Sec. 9, Para.7.

reveals nearly endless variations. For purpose of discussion, financing alternatives are distinguished by their principal features, shown on Figure 3 under five headings: revenue sources, fund accounting, type of operating agency, type of budget authority, and program design.

REVENUE SOURCES

Government programs are financed with moneys obtained, in most cases, by tax levy. In this study, the word "tax" means any pecuniary charge imposed by the government, including personal and corporate income taxes, excise taxes, duties, social insurance contributions, and other involuntary charges. Out of total budget receipts of $232,225,000,000 for Fiscal Year 1973, the last period for which actual figures are available, taxes (as defined above) produced $228,548,000,000 or 98.4 percent of the total[12]. Of the remaining $3 677,000,000, gifts and contributions totalled $14,000,000, the Federal Reserve System deposited earnings in the amount of $3,495,000,000, and charges for various services rendered by government agencies generated $168,000,000. In addition, government agencies and public corporations engaged in business type activities generate proprietary receipts in the course of their transactions with the public. These are treated as offsetting receipts rather than budget receipts, since they are set against corresponding expenditures directly and do not appear in budget totals. Proprietary receipts from the public accruing to agencies which appear in the unified budget totalled $9,702,000,000 in 1973. Additional receipts accrue to "off-budget" agencies such as the Environmental Financing Authority Fund, the Export-Import Bank of the United States, the Farm Credit Administration, and other public corporations wholly owned by the United States Government.

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[12]Details of budget receipts throughout the section are from The Budget of the U. S. Government: 1975, (Office of Management and Budget, Gov't. Printing Office, Washington, D.C., 1974), hereinafter cited as 1975 Budget.

FIGURE 3

PRINCIPAL FEATURES OF ALTERNATIVE FINANCING ARRANGEMENTS

REVENUE SOURCES	FUND ACCOUNTING	OPERATING AGENCY	BUDGET AUTHORITY	PROGRAM DESIGN
Existing Taxes			Normal Appropriation	
	Federal	Existing Agency		Pay-as-You-Go
Earmarked Existing Taxes	Special		Contract Authority	
		New Agency		
	Trust			
Earmarked New Taxes, by Congress			Auth. to Spend Debt Receipts (Treasury)	Debt Financing
		Off-Budget Corporation		
	Revolving			
Earmarked New Taxes, by Formula			Auth. to Spend Debt Receipts (Agency)	
Other Sources			Auth. to Spend Proprietary Receipts	

General Receipts from Existing Taxes

Programs which use general receipts from existing taxes are those which depend upon appropriations of non-earmarked revenues. In Fiscal Year 1973, about 64 percent of gross budget receipts (before adjustments for interfund transactions) were non-earmarked revenues. Most government programs depend entirely on this revenue source, and it is the source of moneys now appropriated to the Construction Grant Program.

General receipts convey no special advantage to the programs for which they are appropriated. The total quantity of such funds available is determined by tax and economic stabilization policy, but in the past the total has been large by comparison to the quantity actually appropriated to the Construction Grant Program. There is no reason to expect the availability of general funds to place restrictions on the size of the program that would not be indicated by other considerations (major increases in the Construction Grant Program could be accommodated by marginal reductions in all competing programs, if necessary).

Relying heavily on personal and corporate income taxes, Federal general receipts are relatively progressive in their incidence with respect to income. The economic burden imposed by personal income taxes is believed to derive from distortion of choices between work and leisure, but empirical studies have generally failed to find major effects[13]. Similarly, displacement of private investment by income taxes seems minimal. The major impact of the Federal personal income tax, then, is a displacement of private consumption. Corporate income taxes displace investment to some extent, but they are believed to act principally on private consumption.

Except for the progressivity noted above, and certain widely publicized

[13]See the comprehensive review of economic effects of personal and corporate income taxes in Earl R. Rolph and George F. Break, Public Finance, The Ronald Press Co., New York, 1961, pp. 150-201.

defects in the structure of personal income tax, the burden of raising general revenues for the Federal government tends to fall equally upon equals. The provisions of the tax laws are applied uniformly throughout the society, and few inequities of relevance to the pollution control program can be identified. Since the taxes act principally to displace current consumption, little of the cost is shifted to future generations.

As a major component of existing government financing arrangements, the use of general receipts as a revenue source has demonstrated its feasibility beyond reasonable doubt.

Earmarked Receipts from Existing Taxes

Rather than rely on general receipts for moneys to finance a government program, specific existing taxes may be earmarked, dedicating their receipts to the purposes of the program. In this manner, the program is not required to compete annually for the use of general receipts, being assured that the proceeds of the earmarked tax are always available for appropriation to the program. Federal excise taxes are sometimes earmarked for specific purposes, which may or may not be related to the taxed activity. The Federal Aid Highway Act of 1956[14] which created the present Highway Trust Fund for the Interstate Highway Program, earmarked several existing excise taxes, including the Federal gasoline tax. To the extent that earmarking is directed to consumption-related taxes, such as excise taxes, programs financed in this manner are likely to be regressive in the incidence of their costs with respect to income. Income taxes, often earmarked at the state level, tend to have progressive effects.

Another aspect of earmarking is the relationship, if any, between the taxed activity and the purposes of the government program so financed.

[14]The Federal-Aid Highway Act of 1956, 70 Stat. 374, enacted as P. L. 84-627.

Earmarking taxes on airline fares for the construction of airports (Airport and Airway Development Act of 1970[15] provides an example of one such relationship, as does the earmarking of gasoline taxes for highway construction. On the other hand, at least 13 states earmark receipts from general sales taxes for aid to education, an essentially unrelated activity[16].

Since no existing tax levies are directly related to benefits derived from pollution control programs, it must be presumed that the earmarking of existing taxes would result in dedicating revenues of the general, mostly progressive, type described above. The only effect of earmarking, in this case, is the short run identification of a fixed quantity or fraction of the total budget receipts which is expected to be available for the program.

To the extent that the earmarked sum exceeds that which would have been available in the absence of earmarking, the practice may accelerate program growth. If the earmarked quantity is less, it may slow progress. Since the degree of earmarking may be changed at any time by Congressional action, the identification can only be considered short-run. It is of interest only because Congress exhibits greater friction in the taxing process than in the allocation process A program that is growing relative to the total budget will likely receive smaller total appropriations with earmarking than would be the case without, given a constant level of political support uniformly distributed throughout the Congress.

The feasibility of earmarking existing taxes is well established. State governments earmark extensively, and frequently introduce, alter, or drop earmarking of existing taxes. The major revenue source for the Highway

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[15]The Airport and Airways Development Act of 1970, 84 Stat 219, enacted as P.L. 91-258, as amended by P. L. 92-174 (85 Stat. 491).

[16]Earmarked State Taxes, Tax Foundation, Inc., New York, 1965.

Trust Fund, the gasoline excise tax, was an existing tax when it was first earmarked in 1956[17]. The present administration's Revenue Sharing Program is financed by earmarking a specific portion, determined by formula, of total Federal receipts[18]. Where the rationale and necessary political support are present, there appear to be no special obstacles to earmarking existing taxes.

Earmarked Receipts from New Taxes, Rate Set by Congress

Frequent proposals have been made for the adoption of a benefit-related tax as a revenue source for the Construction Grant Program (effluent charges, user taxes, etc.). Such a tax would be enacted and earmarked for the purpose. In the case of the Highway Trust Fund, a benefit-related tax already existed (the Federal gasoline tax) but a number of additional benefit-related taxes (on truck parts, accessories, certain vehicles, etc.) were introduced and earmarked. Public Law 91-258 created taxes on airline fares, waybills, aviation fuels, etc., and earmarked them as revenue sources for the Airport and Airways Trust Fund[19].

In determining the effectiveness of a benefit-related earmarked tax, consideration must be given to expected changes in the tax base. An expanding program which derives its revenues from a stable base will require periodic increases in the tax rate, or new revenue sources. When Congressional action is required to change the tax rate, the delays inherent in tax legislation will create chronic insufficiency of funds. On the other hand, where the tax base expands faster than the program, there will be a tendency for surplus funds to accumulate, before the

[17]The Federal Aid Highway Act of 1956.

[18]State and Local Fiscal Assistance Act of 1972, 86 Stat. 919, enacted as P. L. 92-512.

[19]The Airport and Airway Development Act of 1970.

rate is reduced, or the program enlarged.

When certain conditions are present, benefit-related taxes possess definite advantages from the standpoint of both efficiency and equity. The benefits of municipal wastewater treatment are distributed unevenly throughout society; they are concentrated in specific geographical areas and, within them, in certain occupational and socio-economic groups. To the extent that the benefit principle of taxation is relevant and that a benefit-related tax corresponds to actual benefits, it contributes to equity. To the extent that a program supported by a benefit-related tax assumes a level different from that it would have reached if supported by general taxes, the preferences of the beneficiaries, are being served without cost to the non-beneficiaries--a contribution to efficiency.

Benefit-related taxes frequently provide incentives for efficient private decisions, as well. An effluent charge which reflects the marginal damages to other users of the environment provides an incentive for the discharger to provide, at his own expense, the socially optimal amount of treatment. Further, it rations the use of the environment among competing users in an efficient manner. Benefit-related taxes on the beneficiaries of wastewater treatment plants could have the added advantage of signalling optimal investment patterns in municipal treatment plants.

However attractive the economic effects of benefit-related taxes, they present serious questions of feasibility. First of all, benefit-related taxes are typically of the nature of excise taxes--they act to shift the marginal cost curves for goods and services. Where this shift simply reflects what had previously been an uncompensated externality, the tax contributes to the efficient allocation of all goods and services in the private sector. When the shift exceeds the magnitude of the externality, an economic burden is created, unless either the demand or supply curve for the good or service is inelastic. Since information

and implementation requirements preclude the use of taxes to reflect marginal damages in individual cases, there is no way to predict the aggregate burden imposed by a benefit-related tax.

Even where surrogates for damages are available, such as volume and strength measurements of water-borne wastes, the implementation and enforcement of a benefit-related tax levy faces formidable obstacles. The compromises of the benefit principle that would be required to make such a plan feasible would likely strip away some of the desirable features of benefit-related taxes.

Benefit-related taxes also open many questions of legislative feasibility. Proposals for effluent charges on waste dischargers, for example, have been questioned on constitutional grounds. Water use taxes that might be levied on local water and/or wastewater utilities, or their customers, also suggest constitutional issues. Precedents indicate, however, that these fears are unfounded. Effluent charges and water use taxes are forms of excise taxes and fall under the restriction of Article I, Section 8 of the United States Constitution, "all duties, imports, and excises shall be uniform throughout the United States". The uniformity requirement has been narrowly interpreted. "According to the settled doctrine, the uniformity exacted is geographical, not intrinsic"[20]. This means only that liability to pay the tax must be the same wherever one is located in the United States. It does not require equality as to rates or persons subject to the tax. The due process clause of the Fifth Amendment to the Constitution provides a general measure of protection against unequal treatment by the Federal Government, but such protection is less meaningful in the tax area, where the government is recognized as having broad powers of classification of the subject matter and of persons subject to tax.

The Constitution further restricts the purpose of taxation to "pay the

[20] Charles C. Steward Machine Co. vs. Davis, 301 U.S. 548, 583 (1937).

de ts and provide for the common de ense and general welfare of the United States"[21]. An effluent charge levied for the express purpose of modifying discharge practices would not seem to violate this restriction. Writing on this subject, Justice Cardozo stated "the discretion belongs to Congress, unless the choice is clearly wrong, a display of arbitrary power, not an exercise of judgement..... Nor is the concept of the general welfare static. Needs that were narrow or parochial a century ago may be interwoven in our day with the well-being of the Nation"[22]. As early as 1869, the Supreme Court upheld a Federal tax on state bank notes designed to drive them out of circulation[23]. Subsequent cases affirm the right of Congress to levy taxes with the purpose or effect of regulating or deterring particular activities.

The principle of Federalism limits the extent to which the Federal Government may tax the instrumentalities of State governments (including municipal governments). The States' immunity from Federal levies has diminished considerably from the nineteenth century when even salaries of State employees were throught to be immune. Still, the existence of some immunity is said to continue, and the possibility of levies imposed upon municipal water or wastewater u ilities raises the questi on of its application. A State activity probably retains immunity if the activity is essential for the preservation of State government, and if the burden of the tax would fall directly upon it. If the burden is shifted to others, or if the incidence is uncertain, there is no immunity. Thus, there is no immunity where the State engages in such traditionally private activities as the sale of mineral waters, and th tax falls equally on private and public sellers[24]; or where an admissi ns

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[21]United States Const., Art. I, Sec. 8.

[22]Helvering vs. Davis, 301 U.S. 619, 604-641 (1937).

[23]Veazie Bank vs. Fenno, 75 U.S. (8 Wall.) 533.

[24]New York vs. United States, 326 U.S. 572 (1946).

tax generally applicable and expected to be passed along to patrons falls on a municipal beach[25]; or where a transportation tax falls on a public authority which operates a ferry system[26]. The difficulty with taxing wastewater treatment plants is that there will be few examples of private facilities paying the same tax, but such plants are not necessarily governmental and any charge can be easily passed along to users. In view of the importance of the regulatory scheme of which the tax would be a part, immunity seems unlikely.

Earmarked Receipts from New Taxes, Formula Set by Congress

Where it is anticipated that receipts from an earmarked tax will not follow sufficiently closely the desired future financing levels of a program, some means other than periodic review by Congress may be provided to adjust the tax rate. One such procedure is to develop a formula which determines the required tax rate based on estimates of changes in the tax base and in the program size, and to cause the actual tax rate to be re-determined on a regular, perhaps annual, basis. Responsibility for this determination would be delegated to an Executive Branch agency. In this way, frequent small changes in the tax rate are substituted for more infrequent, larger changes with intervening periods of surplus or deficit.

Certain of the practical deficiencies noted above for benefit-related taxes can be ameliorated by removing some of the friction in the tax-rate setting process. Prompt adjustments to changes in program level or size of tax base would avoid situations where fluctuating revenues hamper program effectiveness. Where the tax base is a surrogate for benefits, as in the case of effluent charges or water use taxes, improved knowledge of the benefit-surrogate relationship could be promptly translated into

[25]Wilmette Park District vs. Campbell, 338 U.S. 411 (1949).

[26]U.S. vs. Washington Toll Bridge Authority, 307 F.2d 330 (9th Cir. 1962), cert. den. 371 U.S. 911.

policy, minimizing efficiency losses. The signals for rational decision-making normally provided by a benefit-related flow of revenues would undergo minimal distortion if tax rates could be tied closely to actual benefits.

The major question arising from this possibility concerns the feasibility of such delegation. Although the Constitution mentions no specific restraint on delegation, it is thought to inhere in the principle of separation of powers. Any delegation by Congress to an administrative official must be accompanied by standards which are well-defined (a rate-setting formula, for example), as well as a relatively clear statement of the purpose to be accomplished by means of the delegated powers. These principles have been developed primarily in cases dealing with the delegation of regulatory powers. The Supreme Court does not appear to have dealt specifically with the issue of delegating power to set a tax rate at the Federal level. It has, however, approved delegation of tariff-setting powers, either within defined limits or where the rate depended upon independent facts which were to be found by the President[27]. The tariff cases are not fully analogous, since they draw some support from the President's inherent powers in foreign affairs. However, they do lend some weight to the argument that revenue measures may be delegated.

Other Sources

Other sources of revenue include user charges (to the extent that they do not constitute taxes), proprietary receipts from business type activities, and debt receipts. User charges and proprietary receipts where feasible, exhibit the same general characteristics as benefit-related taxes, without the accompanying rigidities. Debt receipts, however, present other issues.

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[27] e.g., J. W. Hampton, Jr., and Co., vs. U.S., 276 U.S. 394 (1928).

Revenues for use in government programs can be obtained through the sale of instruments of debt, rather than current tax receipts. These debt instruments can be issued either by the operating agency or in its behalf by the U. S. Treasury. In either case, the need for future redemption raises questions of possible inter-generational income transfers, discussed more fully in Appendix A.

FUND ACCOUNTING

The Constitution requires that "a regular statement and account of the receipts and expenditures of all public money shall be published from time to time"[28]. Accordingly, all receipts, whatever their source, are credited to specific funds by Treasury and subsequent outlays are debited from the same funds. The funds are designed so as to segregate receipts which are dedicated to specific purposes, and to provide an accounting of the utilization of receipts for such purposes.

Federal Funds

The non-earmarked receipts of the Federal government are credited to general Federal funds. Appropriations may be made from these funds for any purpose, as determined by Congress. When revenues are credited to general Federal funds and mingled with other general revenues, their individual identities are lost. Moneys appropriated from Federal funds are no longer linked to specific tax levies, or specific patterns of incidence, but to the characteristics of general tax receipts as a whole.

The relevant opportunity cost of expenditures made from Federal funds is the marginal benefit obtainable through alternate public investment. Since most programs compete for the use of these revenues, the opportunity cost actually perceived by decision-makers is likely to approximate this same measure. Further, the political opportunity cost will be

[28]United States Const., Art. I, Sec. 9, para. 7.

the foregone political benefits from the best alternate program. To the extent that the opportunity cost of public investment can be taken as a surrogate for social cost, Federal funds provide incentives for efficient allocational decisions.

Where the benefits from candidate programs are not distributed throughout all groups within society, allocational decisions concerning revenues from Federal funds must be examined on equity grounds. Since the cost will be borne by the population as a whole, it may not be desirable to finance programs with significantly uneven benefits from Federal funds. In fact, unless the beneficiaries are in a position to wield disproportionate political influence, or significant indirect benefits are believed to accrue to the nation as a whole, such programs are unlikely to receive political support.

Still, there is no question of the feasibility of supporting any government program, no matter what the incidence of its benefits, with revenues from Federal funds. The discretion in this regard clearly resides in the Congress. The Supreme Court has observed that "nothing is more familiar in taxation than the imposition of a tax upon ..... individuals who enjoy no direct benefit from its expenditure and who are not responsible for the condition to be remedied"[29].

Special Funds

When a tax is earmarked for a specific purpose, accounts must be established in order to document related receipts and disbursements. When such receipts are separately accounted for, but mingled with Federal funds for fiscal management purposes, a special fund is said to exist. Such a fund can be considered open or closed. If fund revenues are limited to receipts from the earmarked tax and fund disbursements are

[29]Carmichael vs. Southern Coal and Coke Co., 301 U.S. 495, 521 (1937).

limited to the stated purpose of the earmarking, the fund is closed. If the object of the earmarking is also supported by revenue from Federal funds, or if unobligated revenues from the special fund may be, under certain conditions, diverted to other purposes or into Federal funds, the special fund is said to be open.

Closed funds provide conduits for the signals generated by revenue sources and program demands. Where a benefit-related tax is earmarked, the flow of receipts tends to reflect the level of benefits provided. The revenue demands of the program signal related costs and an equation of the two, as required by a closed fund, should contribute to the choice of efficient program levels. When signals are distorted, however, as in the case of taxes on imperfect surrogates for benefits, the distortion is transmitted to the program decisions.

The relevant opportunity cost of revenues in closed funds is the opportunity cost of private investment since the revenues have, by reason of earmarking, no alternate public use. If the signals provided by tax and program characteristics fail to achieve efficient allocation, public decision-makers cannot be relied upon to make rational corrections, since the perceived public sector opportunity cost of earmarked funds may well be very low (no readily available alternate uses). The political opportunity cost tends to follow from the incidence and level of the tax: taxes with low public visibility create low political opportunity costs for the associated revenues, while taxes viewed as onerous create high political costs.

When funds are open, all of the characteristics noted disappear. Since disbursements occur from or to Federal funds at the margin, the actual and perceived opportunity costs of revenues are identical with those applying to Federal funds. Political opportunity costs tend to approach those associated with Federal fund revenues, except in cases of notably unsatisfactory earmarked taxes. The signals provided by earmarked receipts and program demands fall to the level of information rather

than their previous role as dominant incentives. While such information may be useful in decision-making, it could likely be obtained by other means.

Special funds are employed extensively for various purposes, including the accounting of earmarked funds. It is not possible to verify the existence of closed special funds from published analyses of the U. S. Budget, since the appropriation language and supporting data do not separately identify special and other Federal funds. It is probable that where closed funds are desired, trust accounts are employed rather than special funds.

Trust Funds

In addition to special funds created for accounting purposes, certain funds are established by law to account for receipts "held in a fiduciary capacity by the Government for use in carrying out specific purposes and programs"[30]. These funds are known as trust funds and are frequently subject to restrictions not placed on special funds. Legislation creating trust funds, for example, has generally required surplus receipts to be invested in Treasury securities (in some cases, trust funds are permitted to purchase agency debt). As a result, trust funds earn interest on surplus moneys, shown in the budget as transfers from Federal funds to trust funds.

Prior to Fiscal Year 1969, trust fund budgets did not appear in the administrative budget transmitted to Congress during the first fifteen days of each new session. Instead, they were appended to it and not reflected in the budget totals. With the adoption of the unified budget, effective in 1969, the trust funds have been a part of the main Executive budget, where they constituted some 36 percent of receipts and 30

[30]Office of Management and Budget, The Budget of the United States Government: 1974. Gov't. Printing Office, Washington, D. C., 1973, p. 314.

percent of obligations in 1973, proportions which have been rising over time.

At the end of Fiscal Year 1973, almost 27 percent of all public debt was held by government agencies, principally through trust funds[31]. This percentage has grown from 18 percent at the end of 1963. The payment of interest by the Treasury to the trust funds is held by some to constitute a mingling of federal and trust funds, while others anticipate the growth of trust fund surpluses until they exceed the cash requirements of the Treasury. These viewpoints are analyzed in a recent study by the Tax Foundation[32]. Neither issue appears pivotal in a consideration of the use of a trust fund for the Construction Grant Program, due to the small cash balances that would exist, relative to the $140 billion now credited to the existing funds.

Another characteristic of trust funds concerns the assertion of a fiduciary relationship between the government and the beneficiaries of the related programs. The social insurance revenues (Old-Age and Survivors Insurance, Disability Insurance, Unemployment Insurance, etc.) are commonly cited examples of instances where a bona-fide fiduciary relationship is thought to exist. Yet a Deputy Attorney General of the United States has stated that "every duty vested in an executive officer is that of a fiduciary character and exercised for the benefit of the public"[33]. On another occasion, an Attorney General held that the Highway Trust Fund, rather than expressing a special relationship, is merely "a device designed to identify certain designated taxes as a ceiling

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[31]1975 Budget

[32]Federal Trust Funds: Budgetary and Other Implications, Tax Foundation, Inc., New York, 1970.

[33]United States Congress, Senate, 91-1, Hearings before the Subcommittee Aviation, Committee on Commerce, "Airport/Airways Development", July 23, 24, 25 and August 30, 1969, #91-13, Part II.

on the sums available for highway construction"[34].

Yet the use of the term "trust fund" continues to convey the impression of something inviolate, a strictly held fiduciary relationship. Senator Weicker has observed, "Trust fund sounds proper. It sounds much better than politics"[35]. But the weight of opinion seems to indicate that these impressions are just that. There is nothing inviolate about a trust fund and Congress is free to alter its terms at any time in any way it wishes. However, the fact that the recent expansion of the Highway Trust Program into the area of mass transportation planning ($7 million for the Rural Highway Public Transportation Demonstration Program in 1975--out of the total fund appropriations of $4.9 billion[36]) was termed a "raid" suggests the extent of Congressional reluctance to alter trust fund terms.

As this discussion suggests, most trust funds are closed with respect to both revenues and disbursements. The Airport and Airways Trust Fund, however, was established by Public Law 92-174 to be open--Federal fund revenues may be transferred as required to support program levels in excess of available earmarked receipts[37]. As noted above, all trust funds can be "opened" by legislative action. The Highway Trust Fund, for example, must be re-authorized every two years[38]. Each re-authorization presents an opportunity to modify either revenue sources or program elements, should the Congress so desire.

The Tax Foundation found 830 trust funds on the books of the Treasury as

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[34]42 Op. Att'y. Gen. 32 (Feb. 25, 1967), p. 9.

[35]United States Congress, Senate 93-2, Hearings, Subcommittee on Transportation, Committee on Public Works, "Federal Aid Highway Act of 1973", Feb. 1973, #93-42.

[36]Office of Management and Budget, The Budget of the United States Government: 1975; Appendix, Gov't. Printing Office, Washington, D. C., 1974, hereinafter cited as 1975 Budget Appendix.

[37]The Airport and Airways Development Act of 1970.

[38]The Federal Aid Highway Act of 1956.

of May 1970[39]. Excluding Indian tribal funds and trust revolving funds, there are 140 trust funds employed for a wide variety of purposes. The present budget document lists 104 categories of trust funds, as shown in Appendix B. Although successive budget reform measures have variously restricted the application of trust funds, aggregated them with Federal funds for budget consideration, and exempted them from certain requirements, they remain a viable means of financing government programs.

Revolving Funds

Where government agencies or public corporations carry on a cycle of business type operations in which outlays for agency activities generate proprietary receipts, revolving funds are established so that the receipts so generated are available for re-disbursement in the same activity. Where the receipts are earmarked and the authorizing legislation requires the use of a trust fund, the fund is designated as a trust revolving fund. Otherwise, it may be known as a public enterprise fund, a type of Federal fund. Revolving funds have no special characteristics of their own for purposes of this study, except that they permit the use of revenue from certain sources without passing through the appropriations process. The implications of this practice will be discussed under the Budget Authority heading, below.

OPERATING AGENCY

Although Congress has considerable latitude in its selection of a financing scheme for a government program, specific agencies are limited with respect to the financing alternatives applicable to their activities. These limitations may be overcome by creating an agency or a public corporation solely for the purpose of carrying out a particular program. Accordingly, a discussion of financing methods must include some

[39] Federal Trust Funds.

discussion of the type of operating agency to be employed.

Existing Agency

In situations not involving a cycle of business type operations or a trust fund, the existing Executive departments and agencies are capable of operating under any of the financing schemes that may be advanced. In such cases, the decision to assign a new or re-structured program to an existing agency is largely an administrative management issue, outside the scope of this study. Even where business type operations or the use of a trust fund occur, an existing agency may be an admissible option, except as noted below.

New Sub-Agency or Independent Agency

Where a program is financed through a trust fund, and outlays from the fund include the administrative expense of the program itself, it may be desirable to create a separate, self-sufficient organization to operate the program. This permits all related expenses to be identified and segregated for purposes of trust fund accounting. The separate organization may be established as a new subdivision within an existing agency or department, or as an independent agency. Examples include the Social Security Administration (includes some federal and special funds), administered by the Department of Health, Education, and Welfare, and the Railroad Retirement Board, an independent agency[40].

Also, when the government program involves a cycle of business type operations, with or without a trust fund, it is similarly important to identify and segregate all related costs. This may lead to the establishment of a public corporation, either administered by an existing department or agency, or as an independent entity. When the corporation is included in the Federal budget, this technique falls into the same

[40] Details of funding of government agencies, including off-budget corporations, may be found in the 1975 Budget Appendix.

category as new sub-agencies and independent agencies. Public corporations of this type include the Saint Lawrence Seaway Development Corporation, administered by the Department of Transportation, and the Federal Deposit Insurance Corporation, an independent agency.

Off-Budget Public Corporation

Certain public corporations which carry out business type activities have been placed, by law, outside the normal government budgeting process. The budgets for these corporations are received by the Office of Management and Budget and transmitted to the Congress without review. The receipts and expenditures of these corporations do not appear in the budget totals. As of the time of preparation of the 1975 budget, there were nine such off-budget corporations, including the Environmental Financing Authority, administered by the Department of the Treasury. The operations of these agencies may or may not involve trust funds, but they are all financed largely through receipts from other than tax sources.

The statutory exemption of a public corporation from the government budget review process, as in the case of the Environmental Finance Authority, is a significant departure from other organizational alternatives. Allocational decisions within the program are made almost autonomously by the agency in response to signals and incentives deriving from the nature of revenue sources and program design.

When such an agency has its own, ear-marked source of revenue, no consideration of the opportunity cost of public investment arises. If the revenue source is benefit-related, it may provide incentives for achieving efficient program size. If it is not so related, a strong bias for over-investment exists, revenues permitting. In fact, the feasibility of an off-budget agency is closely tied to the availability of a revenue source well correlated with actual benefits.

When an earmarked receipt is benefit-related, its true opportunity cost is the opportunity cost of private investment. An independent, off-budget corporation may serve as an effective private enterprise analog, functioning in a manner not unlike that of a regulated monopoly. Allocational decisions would tend to be efficient, based on the signals provided, and the costs of the program would be borne by the beneficiaries. Although political opportunity costs are minimized by such an arrangement, few program decisions are made in the political sphere and routine allocational decisions are not likely to be distorted.

BUDGET AUTHORITY

Outlays of moneys from any of the funds created for the purpose of financing government programs occur as a consequence of specific obligations. The authority to incur obligations on behalf of the Government is delegated by Congress to the various agencies and instrumentalities of government in the form of obligational authority, better known as budget authority. The granting of budget authority is nominally a two-step process, consisting of authorization and appropriation. The number of variations on the basic process is so large that only a few having some relevance to the present study can be mentioned here.

Normal Appropriations Process

The focal point of allocational decision-making in the Federal government is the appropriations process. Armed with information describing program demands and revenue availability (in a general sense), the Congress determines the amount of moneys which will be available for each purpose. Program demands are initially perceived by the operating agency, converted to budget requests, and reviewed by the Executive Branch and the House Committee on Appropriations before presentation to the Congress as a whole. Due to the relatively complete separation of tax and expenditure decisions, the cost of Federal fund revenues is perceived as the

opportunity cost of alternate investments in government programs, and program levels are chosen which tend to equate marginal economic benefits, and, at the same time, marginal political benefits. Apparent irrational allocations can be attributed to faulty perceptions of marginal benefits, or to economic and political objectives which are mutually inconsistent.

When the agencies are capable of properly reflecting program demands, and when revenues are obtained from Federal funds, the normal appropriations process is probably the best forum for effective and efficient decisions. As in the case of any financing arrangement, inaccurate information or faulty perception will distort the resulting decisions. When revenues are earmarked, apparent opportunity costs are no longer tied to alternate public investment, and incentives for effective and efficient decision-making begin to deteriorate.

The allocational decisions of Congress are modified, in some few cases, by Executive Branch "impoundment" of the appropriated moneys. The degree to which the Executive Branch may refuse to incur obligations against existing budget authority has not yet been clarified by the courts. Although the cases are in disarray, most have explicitly or implicitly agreed that the ultimate power to direct continuance of programs and expenditure of funds resides in the Congress. The issue in most cases has been whether Congress clearly made such a direction. The power of the Executive lies primarily in the discretion left to it in the pertinent statute. An appropriation alone has not been deemed a mandate to spend.

Contract Authority/Liquidating Appropriation

In some cases, especially where the object of expenditure is a contractual obligation in which outlay follows obligation by one or more years, Congress grants obligational authority in advance of appropriation This grant of budget authority is known as contract authority, and it usually appears in the authorizing legislation as reported by

the substantive committees to the Congress. The agency is empowered to enter into contractual agreements, obligating the government to future outlays, provided that it requests appropriations at a later date sufficient to liquidate the obligations. This technique tends to weaken one major feature of the normal appropriations process--the annual review accorded Executive requests for current appropriations. The annual review permits Congress to adjust allocations of revenues among programs on a regular basis. There are situations, however, where annual reviews may interfere with program effectiveness. The Construction Grant Program depends for its success upon the incentives offered to State and local government. At the time of enactment of Public Law 92-500, Congress felt that maximum cooperation at the local level would only be achieved if the Federal government made a definite commitment to specified program levels in advance[41].

Accordingly, contract authority was granted for Fiscal Years 1973, 1974, and 1975, available upon allotment by the Administrator of the Environmental Protection Agency. This decision represents consideration of program effectiveness at the possible expense of efficiency. The view that contract authority was essential to effectiveness was by no means universal. Senators Boggs, Cooper, Baker, Dole, and Buckley expressed doubt about this assumption and suggested that potential efficiency losses, especially in the case of possible technological breakthroughs in treatment processes, would outweigh the gains in effectiveness[42].

Contract authority is a common feature of programs which provide Federal grants to local governments for capital construction. The Highway Trust Fund employs contract authority which becomes effective upon allocation in much the same manner as the Construction Grants Program. The Airport

[41] United States Environmental Protection Agency, Legal Compilation: Statutes and Legislative History; Executive Orders; Regulations; Guidelines and Reports, Supplement I, Volume I, Water, Gov't. Printing Office, Washington, D. C.

[42] Ibid., Legislative History, p. 97.

an Airways Trust Fund employs both contract autho ity and normal ap, ropriations. Congress has various methods for nfluencing the rat of obligations against outstanding contract author ty, such as setting annual ceilings. In the case of the Highway Trust Fund, no restrictions are placed on the use of contract authority, but the program must be re- nacted by Congress as a whole every two years.

As n the case of normal appropriations, contract authority is subject to xecutive impoundment. This occurred in the case of the Construct on Grants Program when the Administrator failed to allot the portion of the contract authority allowed by law. This action led to three court decisions of interest here. In the first, City of New York vs. Ruckelshaus, the court concluded that Congress intended the Executive to have flexibility with regard to incurring obligations, but not with regard to allotments[43]. It ordered the allotments to be made. In another case, the court concluded that flexibility was intended with respect to both allotments and obligations, but not to the extent of 55 percent of the authorized funds, the amount withheld by Mr. Ruckelshaus. It declared the non-allotment void[44]. In Brown vs. Ruckelshaus, the court dismissed the suit primarily because the plaintiffs were held to have no standing to sue[45]. But the court took pains to point out that the plaintiffs would have lost anyway, because neither allotments nor obligations were made mandatory by Congress. Impoundment, in short, seems on much the same ground whether normal appropriations or contract authority are used. The legality of impoundment is largely within the control of Congress. In every case, courts have looked to the language of the legislation to discover the will of Congress.

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[43]City of New York vs. Ruckelshaus, 361 F. Supp. 669 (D.C. District 1973).

[44]Campaign Clean Water vs. Ruckelshaus, 361 F. Supp. 689 (E. District Va., 1973).

[45]Brown vs. Ruckelshaus, 364 F. Supp. 258 (Cen. District Cal., 1973).

Authority to Spend Treasury Debt Receipts

Agencies which require the use of borrowed money may be granted the authority to spend Treasury debt receipts. The proceeds from public debt instruments marketed by the Treasury are made available to the agency, which is empowered to incur obligations against them without further action by Congress. When resulting outlays generate proprietary receipts sufficient to repay the borrowings with interest, no actual appropriation need occur. Should some other form of financing be required, however, an appropriation will be required at some time in the future to liquidate the obligations.

Debt receipts are simple transfers of investment capital from private to public sectors. They retain their private opportunity cost, as represented by the interest rate which must be paid to attract the required revenues. A decision to spend debt receipts requires only that the government program return benefits at least equal to the known cost of the investment; such a decision need not be considered in the context of the total budget to be efficient.

Authority to Spend Agency Debt Receipts

Certain agencies which require the use of borrowed funds are empowered to issue agency debt instruments and to create obligations against the proceeds therefrom. This authority differs from that described above only in that the agency markets its debt instruments directly to the public. The Environmental Financing Authority, for example, possesses the authority to spend both Treasury and agency debt receipts.

Authority to Spend Proprietary Receipts

Those agencies which conduct a cycle of business type activities are customarily granted the authority to obligate against, and spend the proprietary receipts generated as a consequence of the agency or corporation activities. This authority is in lieu of any requirement for

further appropriation. In this case, the agency, once authorized, carries on its activities without the need for further action by the Congress, unless Federal funds are required to finance a deficit. The Emergency Loan Guarantee Board, an independent government corporation, is authorized to spend its proprietary receipts and does not presently receive any appropriated moneys from tax sources.

Proprietary receipts are fundamentally different from tax receipts, and allocational decisions are best determined by considerations other than those inherent in the budgeting process. Grants of authority to spend proprietary receipts are properly made to the operating agency, subject to limitations set by Congress.

PROGRAM DESIGN

The final heading under which financing alternatives are to be discussed is that of program design. Many features of government programs are relevant to financing methods, including the degree of public and Congressional support the program enjoys, the anticipated rate of program growth, the responsiveness of the program to changing needs, etc. In the present study, consideration of program design features is limited to two specific options having major implications for financing; other variations are considered more appropriate to a study of the construction grant program itself.

Pay-As-You-Go Financing

Construction grants now awarded by the Environmental Protection Agency are given on a pay-as-you-go basis--the amount of the grant is paid in full from current revenues at the time of construction of the subject facility. The full burden of the Federal share of the facility cost is felt at the present time, although benefits may be viewed as accruing at some future time or times. The principal issue associated with this procedure is one of intergenerational equity--the distribution of costs

and benefits among succeeding generations of taxpayers/beneficiaries. But investigation of this issue requires some knowledge of the underlying purposes of Federal activities in the wastewater treatment field.

At one extreme, Federal grants to State and local government can be viewed as simple financial aid, a re-distribution of income not unlike the current Revenue Sharing Program. There is some evidence that this philosophy was the dominant one behind the enactment of Public Law 84-660, which inaugurated the program in 1956. In the Federal Budget of 1959, the Executive Branch noted its belief that the need for the program had passed, and announced its intention of terminating the program with the 1959 Fiscal Year[46]. Since the environmental goals of the program were clearly not within each a that time, the "need" mentioned can be interpreted as a need for financial aid to State and local governments.

Since that time, the language of pollution control legislation and the behavior of the Legislative and Executive Branches show more and more evidence of a sense of Federal partnership with State and local governments in the pollution control effort. There seems an implicit acceptance of the existence of potential benefits from the program which are uniquely national in character. Still, the legislative history of Public Law 92-500 contains hints of a range of opinions regarding the basic justification for Federal intervention in what was once a purely local activity. It is possible to say only that Federal benefits are viewed as deriving from both the financial assistance given to State and local government and the environmental improvement which is expected to follow facility construction.

If the benefits were purely the result of financial assistance, they would be expected to occur both at the time of grant award and at future

[46] Bureau of the Budget, The Budget of the United States Government: 1959, Govt. Printing Office, 1958.

times. State and local governments freed from the requirement of fully financing mandated wastewater treatment facilities are able to direct their revenues and bonding powers to other programs, some producing current benefits (Increased teachers' salaries, better public safety programs) and some producing future benefits (investment in school buildings parks, etc.). To the extent that strong, well-functioning local governments are good for the nation as a whole, these alternate investments will produce a stream of national benefits with both current and future components.

On the other hand, Federal investment in local wastewater treatment facilities for the purpose of securing national environmental benefits produces a stream of such benefits which is entirely in the future, beginning sometime after plant construction is complete. If Federal benefits are viewed as deriving from both sources, the benefit stream has both current and future components, of undetermined relative size.

Authorities differ on the extent to which the burden of public expenditure can be shifted to the future (See Appendix A). The issue of pay-as-you-go financing is only relevant if it is believed that some portion of the burden can be shifted as a consequence of the financing arrangement chosen. The existence of this capability suggests the possibility of satisfying equity considerations by distributing costs over time proportionate to the temporal distribution of benefits.

The practice of paying the full amount of the grant at the time of construction places the responsibility for intergenerational equity upon the revenue source. If current tax receipts are used to fund the grants, the cost burden is felt entirely at the present time. If debt receipts are used, some portion of the burden may be shifted through time in some sense, leading to improvements in both allocative efficiency and equity.

Debt Financing

An alternative to pay-as-you-go financing is the practice of replacing the single grant with a Federal commitment to pay specified sums over

a period of years. Instead of requiring the Federal government to finance the full amount of the grant at the present time, debt financing creates an obligation which is liquidated in the future.

If, because of intergenerational equity considerations, it is desired to shift the incidence of Federal expenditure over time, debt financing of grants (payment of the grant over time) is less satisfactory than the principal alternative: pay-as-you-go financing using debt receipts (proceeds of government borrowings which must be repaid over time).

First of all, it is judged that State and local incentives to participate fully in the program would be blunted by the necessity of marketing debt instruments for the entire cost of the plant, even in the presence of a Federal commitment to bear a portion of the debt service burden. Borrowing power is a scarce commodity in many jurisdictions, apart from the economic cost of capital. Program effectiveness could well be hampered on this account.

The need to make a firm commitment to the terms of payment at the time of grant award substantially diminishes the flexibility of the Federal government to make efficient allocation decisions. Ideally program obligations and outlays should be permitted to respond to changes in the opportunity cost of the moneys employed. Where grants are paid in full, but paid from revenues derived through taxes and/or borrowings, numerous adjustments to changing conditions are possible without creating undue pressures on program effectiveness.

Finally, the debt financing of grant awards is inconsistent with previous Federal practice, so far as we can determine. Although the Congress evidently possesses the power to institute such a program, there is no way to predict its acceptability as a program proposal.

SECTION V

ENVIRONMENTAL TRUST FUNDS

TRUST FUND FINANCING

The term, "Environmental Trust Fund", can be used to describe a number of different financing arrangements having little in common except the use of earmarked taxes and a trust fund method of accounting. Based on the analysis of financing arrangement features described in Section V of this report, however, three specific arrangements have been identified as the most attractive of the many trust fund alternatives. These arrangements differ only in the nature of the earmarked revenue source and are analyzed in turn below. The second part of this section summarizes some of the general characteristics of trust funds applicable to all three alternatives.

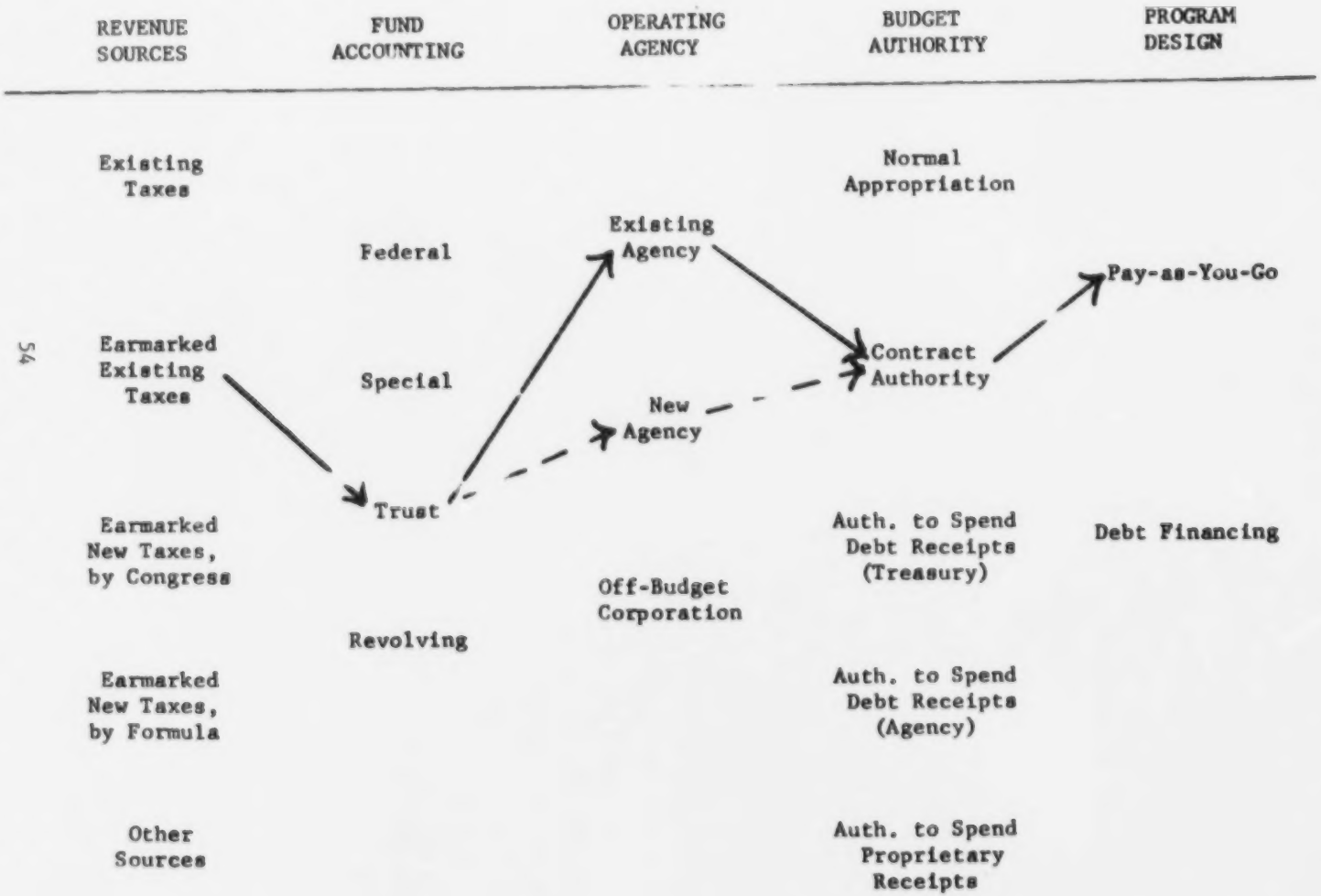
Earmarking Receipts From Existing Taxes

The first trust fund scheme to be considered is outlined on Figure 4. It is based on earmarking existing taxes, perhaps a corporation income tax, a series of excise taxes, or simply the earmarking of a certain proportion of all general receipts. The tax rate may be changed, but the tax levy is either already existing or very similar to an existing levy It is assumed that no existing tax corresponds in its incidence to the benefits expected from the Construction Grants Program.

The newly earmarked receipts are credited to a trust fund, budget authority is granted by means of contract authority to the Agency or some

FIGURE 4

ENVIRONMENTAL TRUST FUND--EXISTING TAXES



specially created sub-agency, and grants are made on a pay-as-you-go basis. Whether the existing Agency or a special organization is used appears irrelevant from the standpoint of financing arrangements. The program would function exactly as it does today, with the exception of the revenue source and method of fund accounting.

Unless the "trust fund mystique" improves State and local confidence in the program, which seems doubtful, there is no reason to expect any improvement in effectiveness over the existing financing arrangements. No difficulties have been experienced in securing adequate fiscal support for the program since at least 1969 (See Section III), and none would be expected under the alternate scheme. Should public and political support for the program diminish, the revenues available would likely decrease in either case.

Since receipts from the earmarked taxes are not available for other government purposes, their opportunity cost as perceived by the Congress is much less than that of general tax receipts. Even though the marginal benefits of the program may fall well below the marginal cost of the earmarked revenues in the private sector, incentives for expansion of the program will remain. Should the marginal benefits be greater than marginal costs, the program will be expanded by increasing the tax rate, as it should be. In either case, the program will tend to expand until the political opportunity costs equal the marginal political benefits, an equation not necessarily in keeping with economic efficiency.

Trust fund financing, based on the use of an earmarked existing tax, is judged to be similar in most characteristics to the existing financing arrangement, except that as discussed above, the quality of the allocational decisions made by Congress is likely to deterioriate.

Earmarking Benefit-Related Taxes, Rate Set by Congress

Where a tax base can be identified that is related to the benefits expected from the program, an earmarked tax can be postulated which may have

important advantages. In the case of the Construction Grant Program, taxes on the use of the wastewater treatment system (user charges) or on the use of the benefitted water resource (water use taxes) may be considered for this purpose. A financing scheme employing the receipts of such a tax appears on Figure 5. In all other respects, this alternative is the same as that based on earmarked existing taxes, described above.

Since the quantity of revenue available is related to some measure of the benefits provided by the program, the quality of the allocational decisions made by Congress may be somewhat better than is the case with earmarked existing taxes. The linkage provided between taxes and expenditures tends to promote efficient decisions in the manner described by Lindahl, Ecklund, and Buchanan[47]. This potential advantage, however, is dependent upon the nature of the taxed activity and the ability of Congress to adjust the tax rate frequently enough to maintain the program at its efficient size. Observations of friction in the Congressional tax-setting process lead to the conclusion that the efficiency advantages inherent in the use of a benefit-related tax may, as a practical matter, be greatly diminished by inertia in tax legislation.

To the extent that the incidence of the tax conforms to that of the benefits, the use of a benefit-related tax confers important advantages in the way of equity, as measured by the benefit principle of taxation. But since benefits from current grants may extend into the future and the cost is incurred at the present time, the inter-generational equity issue remains. Because the costs of a future stream of benefits are compressed into a short time period, the required tax rate increases, and an efficiency element (excess tax burden) is added to the equity argument.

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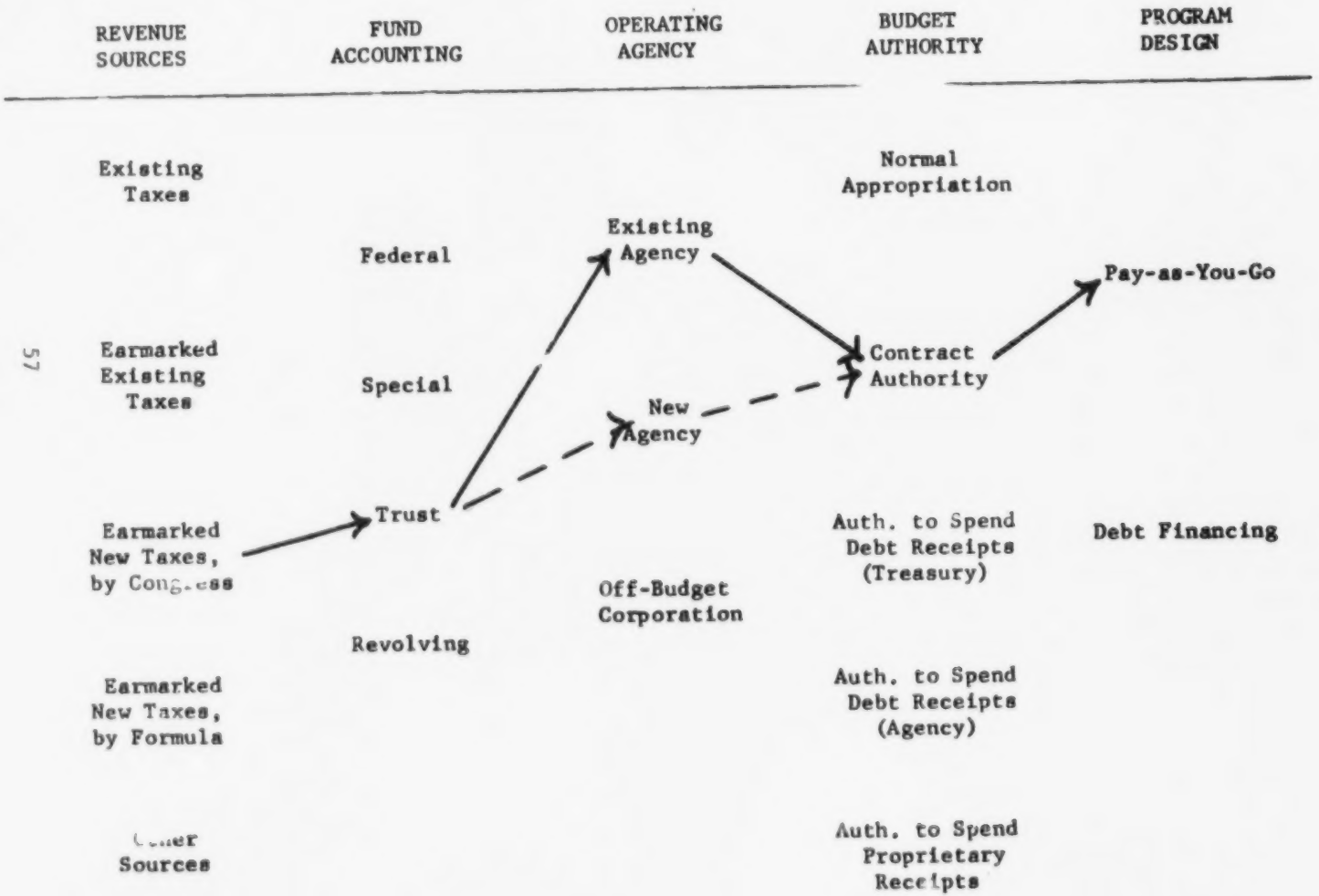
[47]See, for example, P. Ecklund, "A Theory of Earmarking Appraised", National Tax Journal, Vol. 25, No. 2 (June, 1972), pp. 223-28; J. M. Buchanan, "The Economics of Earmarked Taxes", Journal of Political Economy, Vol. 71, (October, 1963), pp. 457-469.

FIGURE 5

ENVIRONMENTAL TRUST FUND--BENEFIT TAXES, RATE SET BY CONGRESS



For a broad range of conditions, the excess burden imposed by an excise-type tax (such as the benefit-related taxes considered here) increases at an increasing rate as the tax rate increases. When the tax rate rises to levels necessary to finance future benefits from current tax receipts, the aggregate excess burden will exceed that imposed by a lower tax rate throughout the life of the benefits. This effect is magnified by discounting the future burdens associated with the lower tax rate.

This financing alternative, using a benefit-related tax and a trust fund, is essentially the same as that now employed for the Federal Aid Highway Program. To the extent that criticisms of the program have been based on valid issues, they have centered on divergencies between the incidence of the major earmarked tax (all users of gasoline) and the benefits (biased toward users of interstate highways), as well as the use of contract authority to grant budget authority to the operating agency. It is sometimes suggested that the fact that allocational decisions are made by Congress on the initiative of the Committee on Public Works rather than the Committee on Appropriations leads necessarily to inefficient program levels. The fact is that the Committee on Appropriations has the means to coordinate spending decisions associated with the Highway Trust Fund with those in the Federal sector as a whole, should it choose to do so. But there is no assurance that the resulting decisions would be preferable to those now being made, since the apparent opportunity cost of the revenues in the trust fund is distorted by the fact of earmarking. The Highway Trust Fund is vulnerable to criticism on both efficiency and equity grounds, but it has been a notably effective means of financing a major public works program.

Earmarking Benefit-Related Taxes, Rate Set by Formula

One of the deficiencies noted in the discussion of earmarking benefit-related taxes, above, can be eliminated by altering the means of setting

tax rates. Figure 6 outlines a financing arrangement where the tax rate is determined by a formula given by Congress, based on information regarding benefits, program requirements, size of tax base, etc. The development of the necessary information and the determination of the actual tax rate would be delegated to the operating agency, thus reducing efficiency losses deriving from lags in adjusting the tax rate.

This alternative is stated separately in recognition of potential feasibility limitations. The willingness of Congress to delegate such a power cannot be determined in advance and the delegation may, in fact, be at variance with the constitutional principle of separation of powers. This alternative, should it prove feasible, would represent an improvement over a similar arrangement with the tax rate set by the Congress.

TRUST FUNDS: PROS AND CONS

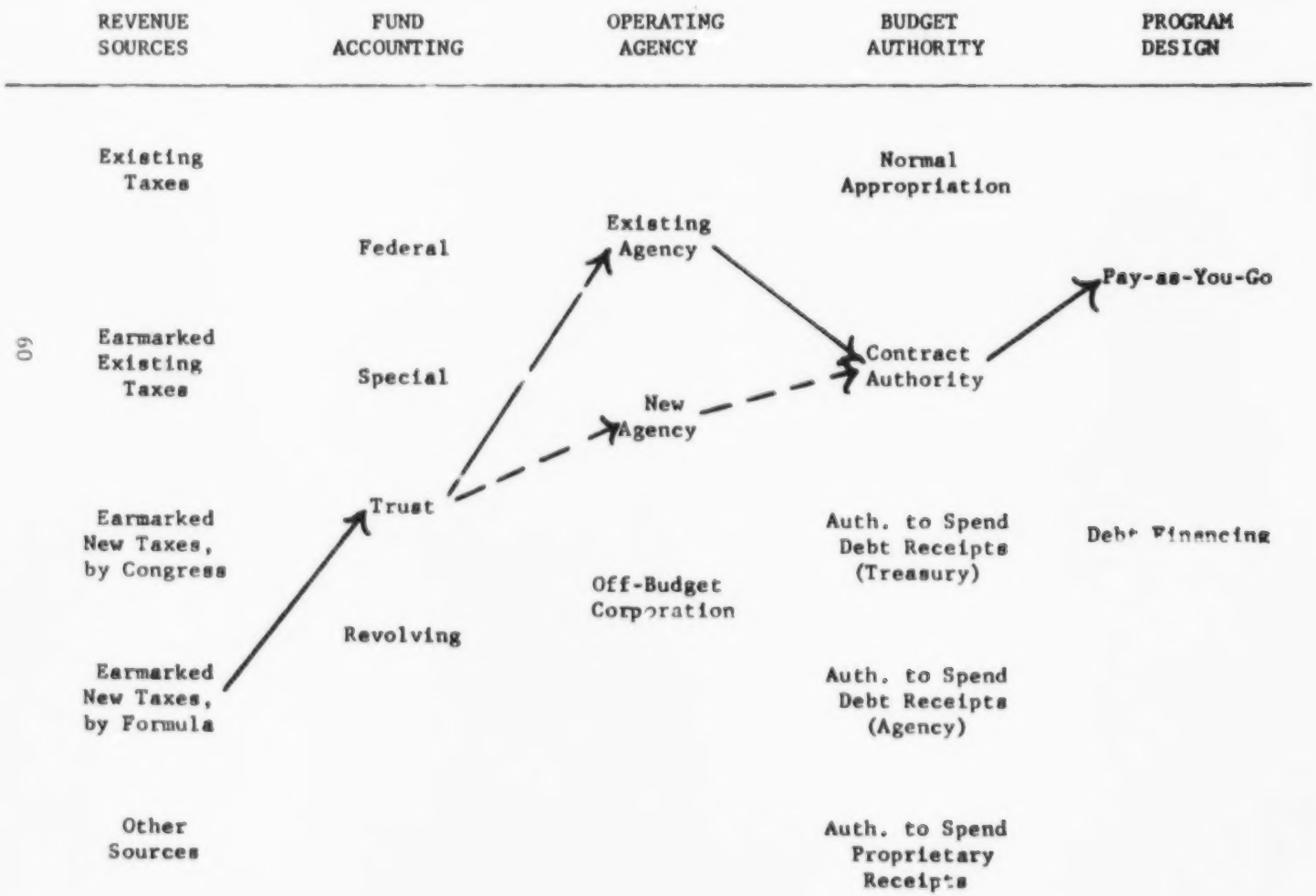
Although this study has reviewed a broad range of financing alternatives for the Construction Grant Program, those arrangements which incorporate some form of trust fund have been given special attention. Three trust fund arrangements are described above, employing three different types of earmarked taxes. The analysis of these arrangements leads logically to certain observations of the characteristics of trust funds in general.

The term "trust fund" has come to symbolize characteristics and types of behavior which may be unrelated to the fact of a trust fund. Financing arrangements which include trust funds have the following in common:

- An earmarked tax, the receipts from which are dedicated to a stated purpose
- Separate accounting of receipts from the earmarked tax and disbursements for the stated purpose (the "trust fund")
- General awareness, on the part of Congress, of the dedicated nature of the revenues at the times of authorization and appropriation

FIGURE 6

ENVIRONMENTAL TRUST FUND--BENEFIT TAXES, RATE SET BY CONGRESS



The present discussion considers only "close" trust funds. This excludes trust funds which obtain a portion of their revenues from non-earmarked tax receipts, or which support programs which also receive general revenues appropriated for the same purpose. Similarly, trust funds are excluded which permit earmarked revenues to be diverted to general purposes under certain conditions. Any of these features create "open" trust funds, which, as described in Section VI, are virtually indistinguishable from normal appropriations financing. Trust fund characteristics are discussed below under separate headings of economic effects, feasibility, and effectiveness.

Economic Effects

The most strenuous opposition to the use of trust funds to finance government programs has usually been mounted by persons concerned about economic effects of financing arrangements. Trust funds have been accused of misallocating resources--they are believed to stimulate over-investment, to encourage programs to grow autonomously, to permit programs to outlive their justification, to allow program beneficiaries to profit at the expense of taxpayers as a whole, to introduce unwanted rigidities into government decision-making, and to hazard economic stabilization policy and fiscal management by accumulating huge cash surpluses which must (by statute) be invested in government securities.

At the same time, others believe that the use of trust funds may tend to allocate resources in a manner more responsive to public preferences, that it may increase public satisfaction with government programs, that it may alleviate pressures to consider only short-run goals, and that the proper choice of taxes for earmarking may improve equity effects as compared to those obtainable without earmarking. Resolution of these conflicts on theoretical grounds depends upon the postulation of numerous simplifying assumptions of dubious generality. The author of one of the more successful attempts, notes that "any formal model based on individual behavior in collective choice processes must remain remote

from real-world political experience"[48]. For this, and other reasons, well-informed observers of the process of financing government programs continue to differ on the economic effects of trust funds, in spite of considerable and growing experience with various forms.

Most discussion of economic effects centers on the issue of allocational efficiency. It was suggested earlier in this report that the Congressional budget review process tends to serve as an analog for the private market[49]. Congressmen perceive benefits from government programs, signalled by constituent opinions and pressures from special interest groups. They also perceive the opportunity cost of public funds, as indicated by the marginal benefits possible in the next best alternate program. Since budget approval is a de-facto incremental process, the tendency should be to equate benefits at the margin for all government programs.

Unfortunately, the process as it now exists is most imperfect. Individual Congressmen perceive political opportunity costs associated with tax receipts which may be quite different from the true opportunity cost of public sector funds. A particular piece of tax legislation, for example, might be unpopular in certain constituencies out of all proportion to its prospective economic burden. There is little about the taxing process which would establish any fixed relationship between opportunity costs in the public and private sectors. Congressional perceptions of program benefits, and of political benefits (or costs) associated with specific programs may be based on incomplete or inconsistent data. Still, the potential exists in any representative assembly such as the Congress for a reasonably rational allocation of public funds, if information can be provided and incentives protected. Depending upon the specifics of a particular financing arrangement, a

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[48] Buchanan, p. 469.

[49] This analogy has been developed elsewhere; See, for example, Roland N. McKean "The Unseen Hand in Government", American Economic Review, Vol. 55, No. 3 (June, 1965), pp. 496-505.

trust fund-financed program may or may not be subject to the same allocation process as other government programs. Most trust funds require the normal steps of authorization and annual appropriation prior to any revenue disbursal. In such cases, the desirability of a trust fund hinges on the effect of earmarking on the incentives ordinarily available for efficient allocation.

The unavailability of earmarked revenues for other purposes acts to reduce the opportunity cost of such revenues considerably below that of general revenues--their only alternate use to investment in the associated program in the current year is investment in the same program in future years. Provided the earmarked tax levy has not been an onerous or unpopular one, political opportunity costs will probably be low, as well. In these instances, there is reason to believe that Congress will tend to expand the program to levels beyond those which would be expected in the absence of earmarking.

This expansion will continue until revenues available from the current tax levy (the specification of tax basis and tax rate) are exhausted. At this point, the considerable friction which exists in the taxing process will act as a brake on further expansion, although for reasons unrelated to economic incentives. Programs funded by earmarked taxes levied upon bases which tend to grow faster than program requirements will, under these assumptions, be subjected to accelerative pressures. Programs whose tax bases are shrinking relative to program size will, for the same reasons, receive decelerative pressures, even in the presence of Congressional incentives to increase expenditures.

These undesirable economic effects arise when, during the budget review process, expenditures of both earmarked and non-earmarked revenues are considered together. But the problem is not necessarily avoided when, as in the case of some programs, the allocation of earmarked funds is handled separately. The Highway Trust Fund operates in this manner by means of grants of contract authority, which are not reviewed by the

Committee on Appropriations during the regular budget cycle. After obligations have been incurred, the necessary liquidating appropriations are reviewed by the Committee, but approval is pro forma. The social insurance trust funds (Social Security, Unemployment Insurance, the various pension funds, etc.) are, for reasons growing out of their unique nature, associated with permanent, indefinite appropriations so that further consideration on the part of Congress is limited to substantive legislation.

When earmarked revenues are allocated in isolation (outside the normal appropriations process), it is not clear what incentives are operative. At one extreme, it may be assumed that Congress behaves as though the opportunity cost of receipts, within the capability of existing tax levies, is zero. The program would expand to spend the entire proceeds of each year's tax receipts, and Congress would expand the tax base and/or rate so long as marginal program political benefits at least equal the marginal political cost of the tax action. When Congress acts in this fashion, the economic efficiency of the program is determined by the nature of the earmarked tax, not by the Congressional decision.

Where the tax is levied on the program benefits, or some surrogate therefore, and abstracting from difficulties with tax rate changes and lags, economic efficiency can be achieved without the intervention of Congress, provided that it appropriates all revenues received. Beneficiaries of the program will bear the burden of supporting it, and their willingness to do so tends to signal the desired program level. Such an arrangement also satisfies the equity criterion, as defined under the benefit principle of taxation. Compliance with the ability-to-pay principle cannot be determined without knowledge of the socio-economic distribution of program benefits.

Conversely, when the earmarked tax is a general tax levied upon ability-to-pay, or any other criteria unrelated to program benefits, the flow of tax receipts will be essentially uncorrelated with program benefits. Under the assumptions presented here, and in the absence of counter-

vailing incentives, Congress will tend to over-spend the tax receipts, and the program will tend to grow independent of its value to society. The equity criterion, as determined by the ability-to-pay principle of taxation, would be satisfied in the case of a properly developed progressive tax. When other taxes are used, the impact on equity depends upon the incidence of the particular tax levy. Correspondence with the benefit principle would not be expected in the case of an earmarked general tax.

In summary, the normal Congressional budget review process, operating on non-earmarked revenues, is expected to achieve an allocation of resources which, though imperfect, should bear some similarity to an efficient allocation. When certain revenues are earmarked, the resulting allocation may be much better or much worse than that which would follow in the absence of earmarking. The actual result depends, for the most part, upon the type of budget authority granted and the type of tax earmarked. A flexible, benefit-related tax combined with exemption from the normal appropriations process would appear to yield the best results, but an earmarked general tax associated with the use of current, definite appropriations can be expected to lead to consistent over-investment.

Feasibility

As noted in an earlier section feasibility is a multi-dimensional concept. In order to be adopted, financing arrangements must demonstrate political and legal feasibility, and in order to be implemented they must possess fiscal and administrative feasibility. The analysis in Section V shows that nothing in the nature of trust funds rules out political and legal feasibility. Specific trust fund proposals may or may not win political support at any given time, but many, widely divergent trust fund arrangements have been proposed and enacted by Congress in the past, thus demonstrating the potential for both political and legal feasibility.

The feasibility of a specific trust fund arrangement is determined by its individual features as well as its merits as a whole. The proposed use of benefit-related taxes, for example, may fail to receive sufficient political support because of expected income re-distributive effects. The device of delegating the authority to set tax rates, as envisioned by the third of the alternatives analyzed above, falls within the power of Congress but may not be considered desirable for political or other reasons. Finally, the Congress is unlikely to establish a trust fund for purposes of financing a government program, thereby reducing its range of choice in allocating public revenues, unless it can be demonstrated that clear and significant advantages will be obtained thereby.

Similarly, in the cases of fiscal and administrative feasibility, it is evident that trust funds, as such, are feasible. Concern has been voiced by some regarding the investment of trust fund surpluses in Treasury securities (See Page 39). This issue does not appear relevant here, due to the relatively small size of an Environmental Trust Fund compared to the nearly $150 billion in government debt held by other trust funds in F. Y. 1975.

The only major issues of administrative feasibility appear to relate to the choice of revenue sources. The use of benefit-related taxes, which often appear desirable on economic grounds, may be precluded due to difficulties in implementation and enforcement. Such taxes characteristically involve administrative costs which are larger than those associated with general taxes and which could obliterate any hoped-for gains in allocative efficiency. Not all tax proposals share this deficiency, but it demands consideration wherever a new or innovative tax levy is contemplated.

As a whole, then, trust fund financing arrangements are potentially feasible. Whether any specific alternative is feasible depends, among other things, on whether the entire financing arrangement can be shown

to be clearly advantageous, whether the revenue source is politically acceptable, and whether the revenue source permits effective implementation and enforcement without undue costs.

Effectiveness

Most support for trust funds appears to stem from their alleged advantages with respect to program effectiveness. The Construction Grant Program is dependent, for its success, on the voluntary applications of thousands of local governments and government authorities for grants. It has been argued that the Federal government must demonstrate its commitment to the program by providing an adequate and stable financing arrangement so that individual wastewater utilities will be encouraged to proceed with the planning and programming of needed facilities. This argument was instrumental in Congress' decision to remove the Construction Grant Program from the normal appropriations process and to provide contract authority. Still, it may be suggested, a trust fund would reemphasize the Federal government's determination to support the program, it would provide incentives for local governments to participate without further delay, it would protect the scale and momentum of the program through temporary revisions in Congressional priorities, it would offer some shelter from the threat of Executive branch impoundment of funds, and it would allow realistic long-term commitments to major abatement programs now dependent upon piecemeal grants.

The fact is, as detailed in Section III of this report, that the Construction Grant Program has been the object of an unusually convincing display of Congressional support, its annual authorizations rising exponentially for the past decade. Since at least F. Y. 1969, obligational authority has exceeded obligations by a significant margin at all times, even after the Administrator failed to allocate fifty percent of the $18 billion contract authority granted in the 1972 Amendments. If the Construction Grant Program is found lacking in effectiveness, then,

t e fault cannot be attached to the financing methods used to date. Moneys available for grant awards are currentl more than adequate to satisfy the eligible grant applications. Whether or not a different financing arrangement, such as a trust fund, would accelerate the flow of applications must remain a speculative issue in the absence of a thorough analysis of the present grant program.

Whether a trust fund offers protection from momentary lapses in Congressional approval is another speculative point--it certainly offers no protection, nor should it, from sustained displeasure. It is clear that trust funds are not effective shields against another type of program disruption, the Executive impoundment. The recently enacted Congressional Budget and Impoundment Control Act of 1974 is expected to eliminate impoundment except with the consent of Congress[50]; but prior to its adoption existing trust funds received no discernable preferential treatment.

On the basis of the available evidence, trust fund financing arrangements have little to offer by way of improved effectiveness at the present time. It is possible that, at some future date, falling public support and rising program size may create a situation where constancy and commitment are crucial to the successful operation of the Construction Grant Program. In such a situation, a trust fund might well be the best means of insuring these characteristics in the short run. In the long run, however, no type of financing arrangement can protect a program which lacks sufficient political support.

Trust Funds in Perspective

In summary, trust funds alter the expected economic effects of government programs, they may involve issues of feasibility and they can,

[50]Congressional Budget and Impoundment Control Act of 1974, enacted as P. L. 93-344, 38 Stat. 297. The impoundment control measures appear as Title X (88 Stat. 332).

under certain conditions, improve effectiveness. A trust fund financing arrangement involving an earmarked general tax is likely to reduce the economic efficiency with which the federal government allocates its revenues. A trust fund arrangement based on an earmarked benefit-related tax may improve allocative efficiency, but at the expense of possible reduced feasibility. Any improvement in efficiency conferred by a benefit-related tax flows from the nature of the tax levy, and is unrelated to either the method of fund accounting or the allocative decision-making process employed by Congress, at least in the short run. With respect to effectiveness, there would be no reason to expect improvement in the effectiveness of the Construction Grant Program as a result of the creation of a trust fund.

On balance, we find no reason to recommend a trust fund in any of the configurations described in this section as a financing arrangement for the Construction Grant Program. It seems likely that any gains in efficiency that might follow the adoption of an earmarked, benefit-related tax would be offset by administrative costs and other difficulties. On the other hand, changing conditions of public support and program scale might, in the future, lead to the advantageous use of a trust fund, and the "trust fund image" could prove beneficial in securing support for needed reforms in the Construction Grant Program. In the next section, we discuss an off-budget financing arrangement which combines the use of a trust fund with a flexible financing arrangement capable of adapting to changing conditions without program disruption.

SECTION VI

ALTERNATE FINANCING ARRANGEMENTS

Section V investigated the use of an Environmental Trust Fund as a part of possible financing arrangements for the Construction Grant Program. Three specific arrangements are analyzed and general conclusions are drawn regarding the characteristics of trust funds. While trust funds have been given particular attention in this study, a number of alternate financing arrangements, not using trust funds or using them in unorthodox ways, were also studied. This section presents the results of the analysis of three alternate plans, including the financing arrangement now employed as provided by the 1972 Amendments.

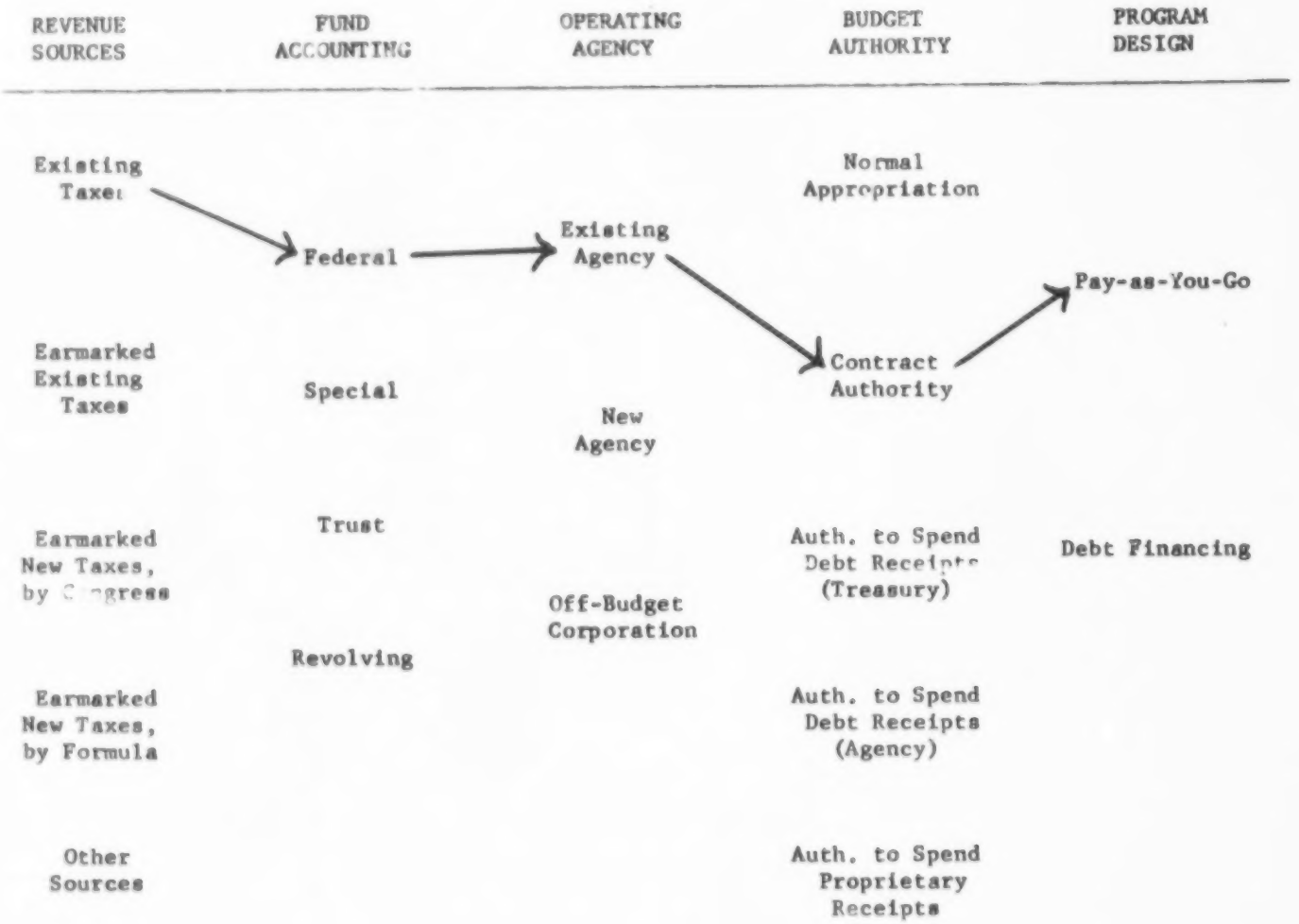
EXISTING FINANCING ARRANGEMENTS

The existing financing arrangement for the Construction Grant Program of the Environmental Protection Agency is shown in outline form as Figure 7. Receipts from existing non-earmarked taxes are credited to Federal funds. Budget authority is made available to the Agency by means of contract authority provided in the authorizing legislation. As cash outlays require, appropriations are sought to liquidate obligated budget authority. Grants are offered to State and local governments on a pay-as-you-go basis.

The effectiveness of the present financing arrangement has been a subject of some concern to supporters of the program. Figures 1 and 2, which appear in Section III, indicate that the current rate of obligations lags

FIGURE 5

EXISTING FINANCING ARRANGEMENT



significantly behind both Congressional authorizations and contract authority as allotted by the Administrator, at least since the enactment of the 1972 Amendments. The program has been unable to expand as rapidly as Congress had anticipated. This may result from insufficient incentives for State and local governments to move forward promptly in the submission of grant applications, or it may be that a history of frequent program changes and a proliferation of grant conditions have resulted in hesitation on the part of potential applicants. In either case, there is no evidence that the present financing arrangements are at fault in the failure of the Construction Grant Program to fulfill expectations. Still, the financing arrangement outlined in Figure 7 can be criticized on several grounds. The revenue source for the program consists of non-earmarked Federal revenues, derived from general taxes. In order for such revenues to be allocated efficiently among competing programs, Congress must adjust program sizes until marginal benefits are equated, an objective which the normal appropriations process is designed to achieve. The grant of contract authority for the fiscal years 1973, 1974, and 1975, made in the 1972 Amendments, circumvents the normal appropriations process to some degree. Congress is no longer in a position to compare incremental investments in the Construction Grant Program for these years with alternate government investments. On efficiency grounds, the coupling of general revenues with grants of contract authority not subject to annual review by the Committees on Appropriations can be expected to have undesirable effects[51].

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[51]The Congressional Budget and Impoundment Control Act of 1974 was signed into law on July 12, 1974, shortly after the studies reported here were concluded. Provisions of the Act appear to bear on several of the issues discussed here, particularly the coupling of general revenues with contract authority. Section 401(a), Title IV, requires annual appropriations prior to use of all contract authority except in the case of certain types of trust funds, thus obviating the objection noted above.

Since general tax receipts are levied largely upon ability-to-pay, their application to a program which has significantly uneven benefits raises questions regarding equity as measured by the benefit principle of taxation. The practice of financing the entire grant at the time of construction raises further questions regarding intergenerational equity. While these issues depend in part upon the precise nature of the benefits that the Federal taxpayer (as opposed to the local beneficiary) is believed to receive, they remain problems except at extreme philosophical positions.

Altogether, however, the existing financing arrangement is a good one, when compared to the great majority of arrangements employed for other government programs. The potential for relative mis-allocation is not believed to be large, since the grant of contract authority extended only three years and the Committee on Appropriations of the House could conceivably have placed limitations on its use, had it so desired. In fact, the contract authority mechanism probably increases program effectiveness by providing more consistent incentives to potential grant applicants. The existing financing arrangement, then, provides a useful benchmark for evaluating the characteristics of alternate proposals.

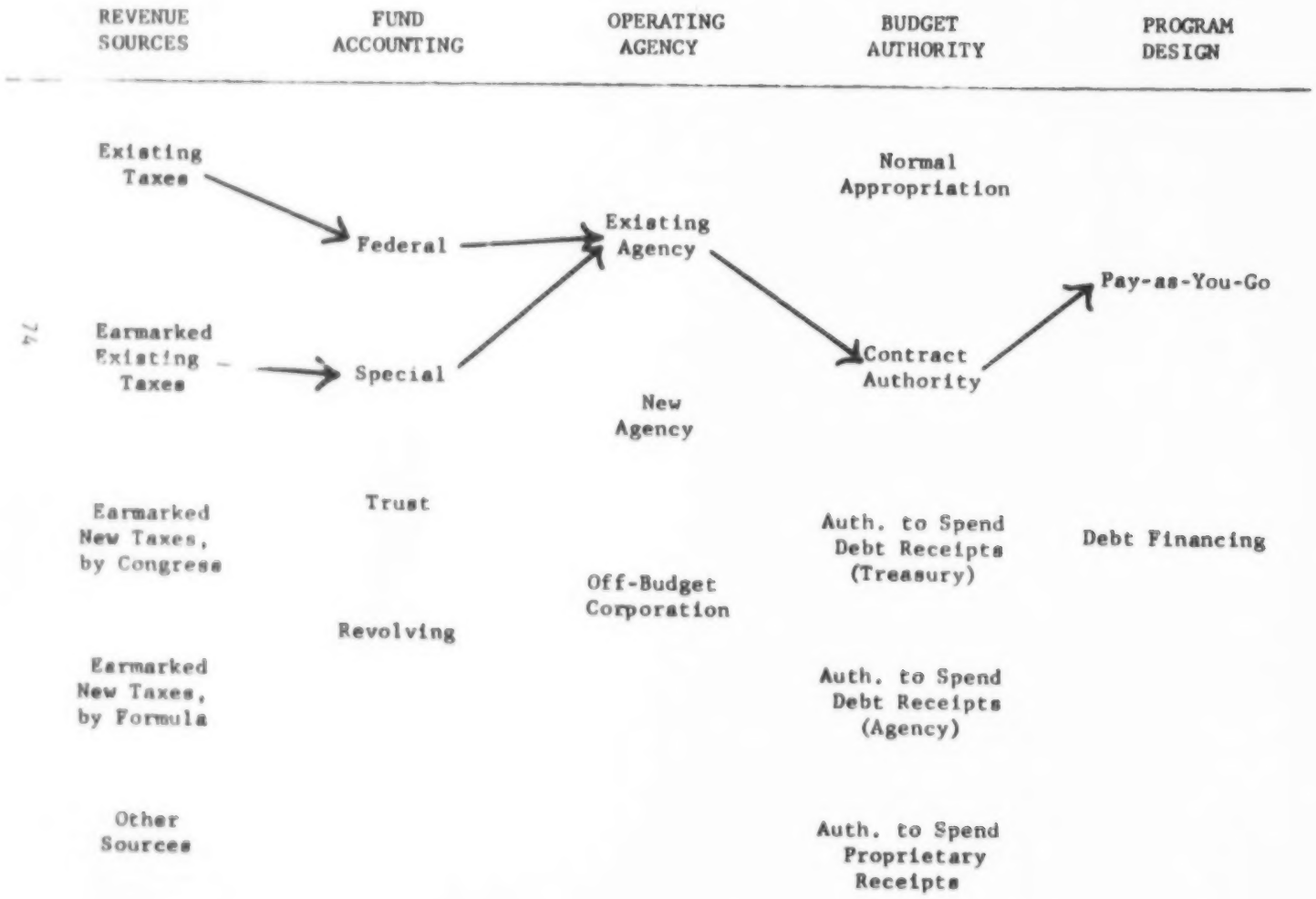
OPEN TRUST FUNDS

The characteristics of a trust fund described in Section J, can also be obtained by earmarking taxes and crediting receipts to a special, rather than trust, fund. Where the object is to create a "trust" fund that is open on either revenue (some sources not earmarked) or disbursement sides, (some revenues available for general purposes) a special fund may be the most convenient means. In the example illustrated by Figure 8, revenues from existing taxes, both earmarked and non-earmarked, are directed, through special and Federal funds respectively, to the operating agency where they are made available for obligation by means of contract authority.

From the standpoint of performance as a financing arrangement, this

FIGURE 8

ENVIRONMENTAL "TRUST" FUND--OPEN



al ernative is indistinguishable from the existing financing arrangeme it, de ribed at the beginning of this section. So l ng as any revenues f om non-earmarked sources remain in the program, the opportunity cost of the revenue is, at the margin, that of public investm it. In this case, the necessary allocational decisions ar best handled through the conventional budgeting process, and the b as toward over-investment described i connection with closed trust fun s is not present. Public satisfacti n with the program may be increa ed by reason of the earmarked tax, bu this effect is unlikely to be pivotal. No significant advantage ca be identified for this financing scheme.

AN OFF-BUDGET FINANCING METHOD

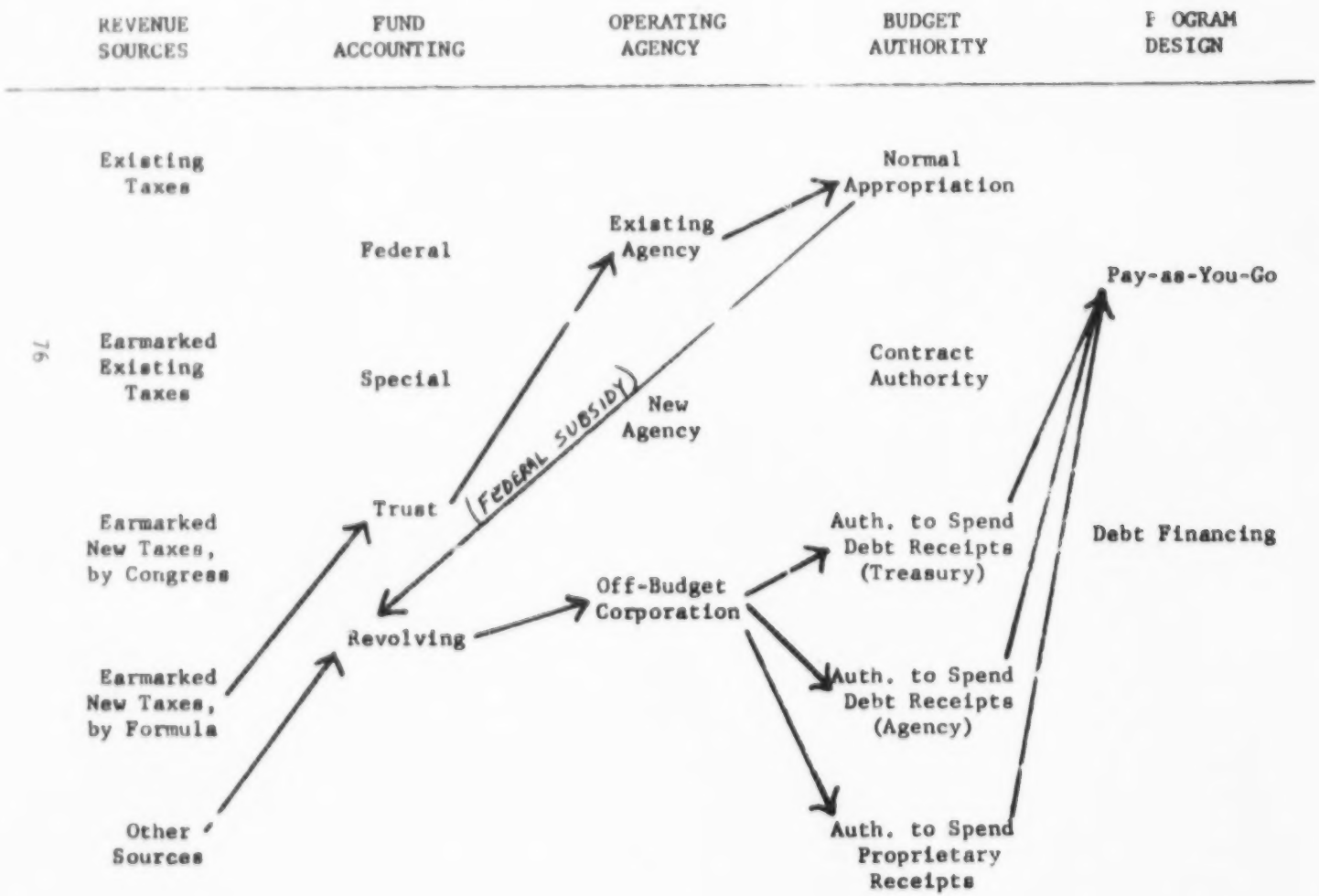
The final financing alternative discussed here is one specifically designed to retain the best features of the individual elements analyzed in Section IV. It combines the functions of the present Construction Grant Program and the Environmental Financing Authority and is shown, in schematic form, as Figure 9.

The Environmental Financing Authority was created by the 1972 Amendments to assist local governments in financing their share of wastewater treatment plant construction costs. The Construction Grant Program provides outright Federal grants covering a portion, up to 75 percent under existing legislation, of construction costs. The grant recipient must finance the remaining costs, usually by selling long-term bonds. When local governments are unable to obtain sufficient funds in the bond market at an interest rate not exceeding some specified level, the Environmental Financing Authority is authorized to purchase the bonds at the specified interest rate, using funds obtained from the sale of Federal debt instruments. The Authority is organized as a public corporation, wholly owned by the Federal government, and is not required to submit its budget to Congress for annual appropriation action.

The present program of the Authority is illustrated by the bottom line

FIGURE 9

OFF-BUDGET FINANCE...



on Figure 9. "Other Sources" in the Revenue Sources column refers to the debt receipts and proprietary receipts which the Authority receives from the sale of public debt and the repayment of principal and interest by local governments. These revenues are credited to a revolving fund, from which the Authority, an off-budget corporation, is authorized to make disbursements. At the present time, these disbursements consist entirely of the purchase, by the Authority, of local government debt.

The proposed financing arrangement would consist of the present functions of both the Construction Grant Program and the Environmental Financing Authority, together with certain innovations. It is anticipated that potential grantees would submit applications to the Authority, setting forth the total capital requirements. The applications would be routed to the Environmental Protection Agency for certification as to compliance with the relevant rules and regulations of the Agency. Grant applications found in compliance would be returned to the Authority for funding action. The Authority would be empowered to advance up to 100 percent of the eligible cost of any project, regardless of Federal cost share set in current grant legislation.

The local share of the cost, the difference between the current Federal share and 100 percent, would constitute a loan from the Authority to the grant applicant. This portion corresponds to the present operation of the Authority, and is financed from the sale of agency or Treasury debt, as determined by Treasury. Certain applicants may, at their option, finance all or part of the local share through the sale of municipal bonds, requesting only the balance in the form of a grant and/or loan from the Authority.

The Federal share of the treatment plant cost, as set by law, would be financed by levying a benefit-related tax upon potential beneficiaries of the Construction Grant Program. The tax rate would be set by the Environmental Protection Agency, as determined by an appropriate formula. The benefit tax might well be a national charge for discharging into a

municipal wastewater system, the application depending upon both quantity and strength of wastes, if such a refinement seems feasible. In order to promote efficient decisions in the private sector, a similar but non-earmarked tax would be levied simultaneously on all non-municipal point discharges into the nation's waters, with receipts credited to Federal funds and available for all government purposes. This tax could be made more severe than the municipal discharge tax to encourage the use of municipal systems where available.

The earmarked benefit tax would be credited to a trust fund and appropriated to the Authority. The rate-setting formula would be arranged to generate revenues sufficient to pay the Federal share of the debt incurred by the Authority, either as it comes due or in advance. The cost of the program is thus spread in any desired manner over the expected period of benefits. The State and local shares of the Authority's debt service would be collected as proprietary receipts. This financing method has effects which bear on allocational efficiency at a number of levels. Considering first the Federal grant portion of the proposal, incentives exist for optimal program size. The tax which is to be levied on users of municipal waste treatment facilities can be seen to behave as a tax only when individual communities are considered. When considered in aggregate, for the whole nation, the tax becomes a kind of user charge since the rate is set by formula such that revenues exactly equal program operating costs. From this viewpoint, it can be predicted that the program will achieve whatever size (constrained by environmental quality regulations and, at the other extreme, by the maximum development of waste treatment facilities if they were costless) that users, taken together, are willing to pay for. Proper choice of tax rate formula and current receipt/debt receipt mix should be capable of producing a reasonable relationship between marginal cost and marginal benefit for the aggregate program.

However fully these objectives may be met, they will not hold for

individual communities. The various wastewater treatment facilities of the nation have widely different capital requirements, owing both to inherent differences and to differing degrees of neglect, and the beneficiary groups of the individual systems differ in their willingness to pay for additional facilities. As enforcement of existing legislation proceeds, these differences can be expected to become smaller and smaller. Old facilities will be modernized, needed facilities constructed, and eventually only the inherent differences in the characteristics of waste, relative economies of scale between different systems, and variation in the nature of the environmental waste sink will remain. At this point, the benefit tax discussed here may be a useful surrogate for a user charge, creating something of the same relationships at the local level that are described above for the national level. Initially, then, there will be an expected cross-subsidization between communities: large communities subsidizing small, well-developed wastewater systems subsidizing neglected ones, rich supporting poor. Whatever the social or economic judgement made of this situation, it probably represents a smaller perturbation of the pre-existing income distribution than that created by the existing financing method, based on ability-to-pay taxes. The advantage of the proposed system is that the distortion becomes steadily less as the program grows, the opposite effect from the existing system.

A second aspect of the proposed financing method concerns the incentives created for efficient allocation within the private sector. One point is suggested by the discussion above. The fact that the tax is levied on users of local systems means that individual wastewater utilities are required to eventually develop the approximate capacity to finance their entire capital requirements themselves--the users will pay the full costs except for whatever cross-subsidization remains after the program matures. Furthermore, industries and other establishments which may wish to discharge waterborne wastes directly into the environment will be required to pay another, non-earmarked tax which corresponds to the

Federal tax levied on users of wastewater systems. In this way, private decisions on whether or not to utilize the municipal system, and on what quantity and quality of waste to discharge, will be based on rational costs. This feature can be expected to lead to more socially efficient use of wastewater treatment systems, although a uniform national tax rate, which pools local variations, may result in some distortion.

As pointed out earlier, the public decision-making process is not well adapted to the allocation of funds which do not have public opportunity costs. In the case of this alternative, the actual allocation decisions are made by the off-budget agency which has, for the reasons noted above, incentives to behave efficiently. The Congressional appropriation of revenue for the Federal subsidy is relatively uncontrollable, the level of subsidy having been previously set by action of Congress and the revenues available being just sufficient for the purpose. Since the funds have no alternate use, there should be little resistance to appropriating them as needed.

Program costs have been distributed to the principal beneficiaries of the program, and further distributed over the expected time span of the benefits. This allows for considerable equity in the treatment of specific groups of taxpayers/beneficiaries. To the extent that income re-distribution and national benefits from the existence of municipal wastewater treatment are the purposes of the program, the pooling of program costs and subsequent use of a national tax rate provides for these objectives.

This alternative is likely to be more effective than the present financing arrangement on two counts: it provides greater incentives for local governments to cooperate in achieving program goals because it creates a demand for local wastewater treatment and removes barriers to participation, and it provides for program revision without disruption. Should it be determined by the Congress that the 75 percent Federal share

is no longer necessary to meet national objectives for environmental control, the size of the Federal subsidy can be decreased easily. Since the users of the local wastewater systems have already been required to pay the cost of operation as well as the Federal tax, a reduction in the tax and a nearly corresponding increase in the local user charge (to finance the increased local share) would be relatively painless. Also, the Federal government retains considerable flexibility as to the source of the subsidy funds, should changing conditions dictate a different attitude with respect to benefit taxes.

As noted above, this financing alternative possesses distinct advantages over alternate arrangements. The issue of feasibility raises questions, however. Most elements of the scheme are already in use, but two aspects require closer study. The application of the benefit-related tax described, together with the non-earmarked tax on dischargers to waterways, may meet with political or public opposition. The use of debt receipts to shift a portion of the costs to the future will result in tax rates that are reasonably low, but a new tax of this type is certain to be controversial, whatever its advantages. The other feasibility issue concerns the substantially altered mode of Congressional participation assumed by this alternative. Congress routinely provides subsidies from tax receipts to public corporations, but the long-term nature of the obligations imposed by this arrangement may give cause for concern. These questions must be addressed rather specifically before such a proposal can be considered for implementation.

Sections V and VI of this report have presented and analyzed six alternate financing arrangements for the Construction Grant Program. Three of these, described in Section V, employ trust funds in the conventional sense. The alternatives described in Section VI include the financing arrangement now established for the program as well as two options which may be characterized as unconventional trust funds. An overall summary of the study which led to these analyses and a

statement of the conclusions which may be drawn from them appear in Section I of this report.

SECTION VII

APPENDICES

A. Current Tax vs. Loan Financing 84

B. Summary of Existing Federal Trust Funds 96

APPENDIX A

CURRENT TAX vs. LOAN FINANCING

An issue that is usually considered when public expenditure decisions are made concerns whether expenditures should be financed from current taxes or by loan finance. Municipal waste treatmen facilities (MWTF) have several characteristics which make the choice between financing mechanisms particularly important: (a) MWTF are long-lived capital facilities and, therefore, they will provide benefits over long periods of time. We refer to these benefits as benefits by structure; (b) The ultimate function of a MWTF is to enhance environmental quality. This has two important implications. First, from the viewpoint of consumers of environmental amenities, the services provided by MWTF are public goods. That is, consumption of an amenity by one person does not reduce the amount available to others. Secondly, some benefits flow into the future even after the MWTF are no longer operable as there are future benefits from not degrading the environment at the present time. We refer to this type of benefit as a benefit from function; and (c) Since investments in MWTF are "lumpy", their cost streams will not be uniform, if financed on a pay-as-you-go basis. This will be particularly true in early periods of the Environmental Protection Agency Grant Program when large costs will be incurred to bring the program up to

speed and "catch up". The stream of costs will, therefore, not match the time distribution of benefits. Costs will tend to be lumped in the early periods while benefits will accrue over a much longer time horizon.

These features raise several important economic issues: (a) The avoidance of intergenerational inequity (or in a less restrictive sense interperiod inequity); (b) The minimization of efficiency losses from the excess burdens of various revenue sources; and (c) The avoidance of tax friction because of fluctuating tax rates and/or benefit charges. We evaluate each of these issues in this appendix.

INTERGENERATIONAL EQUITY

When a large current public expenditure provides a stream of future benefits, two public finance authorities, Buchanan and Musgrave[52], conclude that it is desirable to spread the costs into the future. That is, to match benefits and costs over time. They argue that, if current, pay-as-you-go finance is used to pay for facilities, the incidence of taxes falls on the current generation, while a portion of the benefits accrue to future generations. In this situation, intergenerational equity is not served. To improve intergenerational equity, Buchanan and Musgrave, among others, have suggested that large capital facilities be financed through the sale of long-term debt instruments.

However, there are other economists, most notably Lerner[53], who argue that loan finances can not shift costs into the future. Hence,

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[52]See, for example, James M. Buchanan, Public Principles of Public Debt, Richard D. Irwin, Inc., Homewood, Ill., 1958; _____ The Public Finances, Richard D. Irwin, Inc., Homewood, Ill., 1965; R. Musgrave, The Theory of Public Finance, McGraw-Hill, New York, 1959. _____, "Should We Have a Capital Budget?", Review of Economics and Statistics, May 1963.

[53]A. P. Lerner, "The Burden of Public Debt", in Income, Employment and Public Policy: Essays in Honor of Alvin H. Hansen, W. W. Norton and Co., Inc., New York, 1948.

intergenerational equity can not be improved by utilizing loan finance for long-lived capital facilities.

We now turn to a summary of the arguments used in support of each position. Lerner's argument, which was accepted by virtually all economists in the aftermath of the Keynesian revolution, is based upon the notion that the burden of debt is the total amount of private consumption goods given up by the community at the time a public bond is issued. It is the current population that foregoes alternative uses of resources, and bears the real cost of public expenditure under loan finance. Serving and retiring the debt in later periods does not constitute a net cost to the population in those periods because it is a pure transfer from taxpayers to bondholders, both of whom are members of the same generation. Taxpayers in the future are worse off as they consume less but bondholders in the future are better off as they can consume more. The two effects cancel.

The Lerner formulation has never been completely free of detractors, however. Meade[54], Ratchford[55] and Wright[56] all agreed that there could be a burden placed on future generations by debt financing. But they argued that these burdens would be secondary burdens. Meade and Wright stressed the burdens associated with adverse incentives on work effort, and Ratchford emphasized that there might be a retardation of investment resulting from the taxes levied to service the debt. However, these critics did not refute the major point presented by Lerner: the inability of the present generation to transfer the bulk of the burden of the debt to future generations.

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[54] J. E. Meade, "Mr. Lerner on the 'Economics of Control'", Economic Journal, April, 1945.

[55] B. U. Ratchford, "The Burden of a Domestic Debt", American Economic Review, September, 1942.

[56] D. M. Wright, "The Economic Limit and Economic Burden of an Internally Held National Debt", Quarterly Journal of Economics, November, 1940.

Buchanan[7] represents the first serious challenge to Lerner's conclusions. Buchanan argued that Lerner treated society as an organic entity, and that this was antithetical to the individualistic determination of welfare. Two results of the viewpoint are redefinition of the concepts of burden and generation. For Buchanan, the debt burden is the total consumption of private goods foregone by the individual as a consequence of government taxation to service and retire debt. A generation is considered to be the lifetime of the individual, rather than Lerner's definition of an arbitrary time period. In making his argument, Buchanan assumes the existence of the following conditions: (a) Resources are fully employed; (b) The debt is created for purposes of real investment and not for stabilization, i.e., the government wants to transfer real resources from private to public uses; (c) The public expenditure is limited in size relative to both income and investment of the community and thus the sale of government securities has a negligible effect on the interest rate and price structure; and (d) The funds used to purchase government securities are drawn entirely from private investment.

Buchanan first analyzes the costs to the current generation of utilizing loan finance. When public investments are loan financed, taxes are not raised and taxpayers do not incur a cost in current period. Hence, we only need consider the bond purchaser. Even though he gives up real resources in the current period, Buchanan concludes that the purchaser does not incur a cost or burden in the present period. In purchasing the bond, the purchaser voluntarily releases resources from the private sector that flow to the public sector. But he purchases the government security because he obtains an asset that yields a flow of liquidity over time that is superior to that which could be obtained by purchasing other assets at that price. The bond purchaser increases his welfare by making the voluntary purchase. Buchanan goes on to argue that it is, therefore inappropriate to think of the bond purchaser as incurring a cost in the period in which he purchases the bond. The cost is borne

[7]Buchanan, Public Principles of Public Debt.

by future taxpayers who service and retire the public debt. In future periods, the taxpayer incurs a real cost as he pays taxes which are not offset by a gain to the bondholder, since the future payments to service and retire the bond have been capitalized into the original bond price. This occurs because the bondholder would have held a private security in lieu of the bond and would have received the same compensation at the margin, even if the public bond had not been issued. Therefore, the taxes raised to service the debt in later periods represent a net liability to the community in that period, and the burden of financing the original public undertaking is shifted to future periods.

There is one qualification to the above argument. If people in the initial period capitalize their future tax liabilities, debt finance and current tax finance will result in the same intergenerational tax incidence. If each person took his tax saving in early periods, resulting from the fact that the expenditure was loan financed, and invested them at the market rate of interest, he would be able to meet future tax liabilities without incurring any additional costs in those periods. Therefore, when tax capitalization takes place the burden or cost of the public investment is incurred in the initial period under either tax finance or debt finance. But even this case is not free from qualifications. For the capitalization argument to be valid, new taxpayers entering the system must receive increments to their bequests that would be sufficient to cover remaining tax liabilities incurred because of investments made prior to them becoming taxpayers. Buchanan, while acknowledging this qualification, argues that taxpayers do not capitalize future tax liabilities and new taxpayers do not receive the necessary bequest to pay for future tax liabilities.

Modigliani[54] and Vickrey[55] provide a different viewpoint. Though they

[54] F. Modigliani, "Long-Run Implications of Alternative Fiscal Policies and the Burden of National Debt" Economic Journal December, 1961.

[55] W. Vickrey, "The Burden of the Public Debt: Comment", American Economic Review March, 1961.

agree that the burden of the debt can be transferred to future generations they take a classical view of the problem. The transfer according to them takes place because of reductions in capital formation. Had the bond purchasers invested in the private sector, the capital stock inherited by future generations would be less when public bonds are purchased than when they are not. Hence a burden accrues to future generations. Alternatively, the public sector could have financed its operations by taxation. In this case, the funds would be derived primarily from private consumption, rather than private investment, and there would be less burden on future generations. In addition, it was argued that if the issuance of government securities caused the interest rate to increase, it might lead to a further reduction in private investment, which would be an additional burden shifted forward. If their arguments are accepted, loan finance will shift the burden to future generations, and would be favored on intergenerational equity grounds when financing capital projects.

In 1963, Mishan[1] attempted to refute the idea that the burden of the debt can be shifted, either in a Buchanan sense of postponed objective cost or in the Modigliani-Vickrey sense of reduced private investment. Mishan pointed out that highly productive public investments could generate income sufficient to pay the interest and amortize the principle of a public bond. In this case, there would be no need to levy taxes in future periods; there would be no reduction in consumption and no burden in the future. This is true, although the rationale for the public provision of goods and services is not necessarily high productivity, in the sense that Mishan appears to use it. In fact, few public programs are notable in their ability to generate significant net revenues.

Although Buchanan has strongly challenged the ortholox view of the incidence of the public debt, no consensus has been reached. There are

[1] E. J. Mishan, "How to Make a Burden of the Public Debt", Journal of Political Economy, December, 1963.

economists who adhere to the position that shifting cannot take place, and there are economists who believe that it can take place. We agree with Buchanan's definition of burden and conclude that loan finance can be used to shift a portion of the costs of public expenditures into the future. We believe that loan finance is, therefore, desirable from the standpoint of improving intergenerational equity in the provision of G.F., because their benefits continue into future periods.

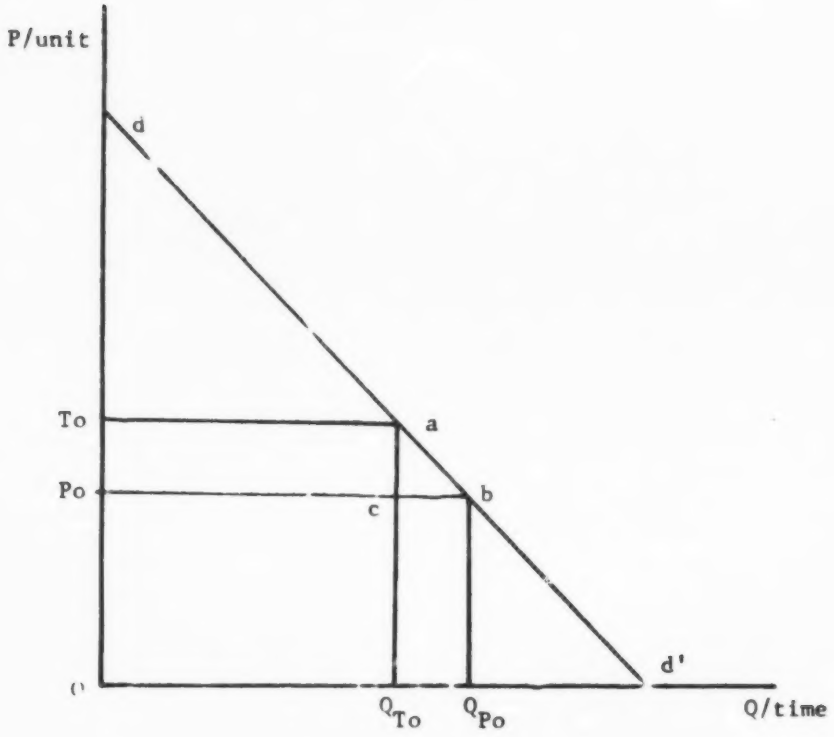
THE AVOIDANCE OF EXCESS TAX BURDEN

We define excess tax burden as the decrease in consumers' surplus which is not transferred to the treasury when taxes are raised. This concept is illustrated in Figure A-1 for a case in which an excise tax is imposed on a private good sold in a competitive market. We have a demand curve D-D', for the good and initial market price Po and quantity Q_{Po}. In this case, consumer surplus is Po d b. When an excise tax of To-Po per unit is levied, the quantity demanded is reduced to Q_{To}, with consumers' surplus of To d a and revenues to the government of To a c Po. By reducing output the area c b $Q_{Po}Q_{To}$, which was equal to both incremental revenue and cost for the output $Q_{Po}-Q_{To}$, becomes zero. It does not represent a gain or loss to any party. The area a b c, which was formerly consumer surplus, accrues to neither the consumer or the government, as the increment in output ($Q_{Po}-Q_{To}$) that formerly generated the consumers' surplus is no longer produced. Hence, the area a b c represents the excess burden of the tax.

For a wide range of demand conditions and market structures, the excess burden increases at an increasing rate as tax rates increase. Similar to the single period analysis of excess burden, it is desirable to broaden the tax base temporarily so as to minimize the required tax rate and thus minimize excess burden. When the cost stream for public expenditures is "lumpy", current tax finance (pay-as-you-go) will generate a larger excess burden than loan finance (pay-as-you-use) in

Figure A-1

EXCESS BURDEN



which the debt is serviced and retired by using a tax rate that is uniform over time. The excess burden under current tax finance would be higher in the early periods and lower in the later periods than that generated by loan finance. However, since the excess burden tends to increase at an increasing rate with increased tax rates, the net excess burden loss of current tax finance in early periods will tend to outweigh the net excess burden gain of current finance in later periods, making loan finance more attractive from an excess burden point of view (See Table A-1). This advantage is even further magnified when one appropriately discounts the excess burdens, since loan finance postpones increments to excess burden.

MAINTAINING STABLE TAX RATES

Tax rates would need to be adjusted often if current tax finance was used to finance a capital construction program characterized by "lumpy" investments. This problem can be avoided by loan finance as it is possible to find some level stream of tax payments that will service and retire loans used to finance the capital costs of the program (See Table 1). These stable tax rates are usually considered desirable. This is based, in part, on the desire to avoid excess burden. In addition, stable rates may be desirable from an administrative point of view as they reduce uncertainty both in individual taxpayer and governmental decision making. Moreover, stable rates lower the political opportunity cost of a program by avoiding the problem of taxpayer resistance to changing tax rates.

CONCLUSIONS

Based upon the criteria of intergenerational equity, efficiency (excess burden) and feasibility, we have argued in favor of loan finance for programs that have characteristics similar to the municipal waste treatment grant program.

Many of our arguments can be focused upon by studying Table 1. Federal contributions to the grant program are estimated for ten years. Tax revenues required to finance these expenditures are estimated for current tax and loan finance.

TABLE A-1

TAX REVENUE REQUIREMENTS

Pay-As-You-Go vs. Pay-As-You-Use[1]
(MWTF Expenditures 1972-1981)

Year	Est. Federal Capital Outlays for MWTF ($Billion)	Tax Revenues Pay-As-You-Go (Billion)	Tax Revenues[2] Pay-As-You-Use Loan Finance ($Billion)	Tax Revenues[3] Pay-As-You-Use Loan Finance ($Billion)
1972	$ .4	$ .4	$ .028277	$ 1.748597
1973	2.9	2.9	.233289	"
1974	3.9	3.9	508995	"
1975	4.5	4.5	.827117	"
1976	4.4	4.4	1.138169	"
1977	4.4	4.4	1.449221	"
1978	4.3	4.3	1.753204	"
1979	4.2	4.2	2.050118	"
1980	4.1	4.1	2.339962	"
1981	4.0	4.0	2.622737	"
	-0-	-0-	"	"
	"	"	"	"
	"	"	"	"
	"	"	"	"
	"	"	"	"
	"	"	"	"
	"	"	"	"
	"	"	"	"
	"	"	"	"
1981	-0-	-0-	2.622737	1.748597
	"	"	"	"
	"	"	"	"
	"	"	"	"
	"	"	"	"
	"	"	"	"
	"	"	"	"
	"	"	"	"
	"	"	"	"
2001	-0-	-0-	2.622737	1.748597
	"	"	"	"
	"	"	"	"
	"	"	"	"
	"	"	"	"
	"	"	"	"

TABLE A-1 (Cont'd.)

TAX REVENUE REQUIREMENTS

Pay-As-You-Go vs. Pay-As-You-Use[1]
(MWTF Expenditures 1972-1981)

Year	Estimated Capital Outlays for MWTF ($ Billion)	Tax Revenues Pay-As-You-Go (Billion)	Tax Revenues[2] Pay-As-You-Use Loan Finance ($Billion)	Tax Revenues[3] Pay-As-You-Use Loan Finance ($Billion)
2007	$ -0-	$ -0-	$ 2.622737	$ 1.748597
	"	"	"	"
	"	"	"	"
	"	"	"	"
2011	-0-	-0-	"	1.748597
	"	"	2.594460	"
	"	"	2.389443	"
	"	"	2.113742	"
	"	"	1.795620	"
	"	"	1.484568	"
	"	"	1.173516	"
	"	"	.869533	"
	"	"	.572619	"
	"	"	.282775	1.748597
2021	-0-	-0-	-0-	-0-

[1]Assumptions for this illustrative example of the effects of loan and current tax finance include: (a) Plant life of municipal waste treatment facilities (MWTF) is 40 years; (b) Bond life is also 40 years; and (c) The interest rate for bonds is 6.5 percent.

[2]Tax revenue requirements are uneven since ten different bonds are issued in each of the years 1972-1981 and paid off as they mature in 40 years. This will shift the cost of the program to future taxpayers.

[3]Tax revenue requirements are even. For the required level of loan finance, a uniform annual revenue requirement has been calculated that will pay off all the required debts. This debt is issued on the same basis as (2) above. This will shift the cost of the program to future taxpayers and eliminate tax friction.

APPENDIX B

EXISTING FEDERAL TRUST FUNDS*

*Source: Office of Management and Budget, The Budget of the United States Government: 1974; Appendix, Government Printing Office, Washington, D. C., 1973.

Branch or Agency	Trust Funds	Source of Funding
Legislative	1. Library of Congress Principal Trust Account	(1) gifts or bequests of cash (now on permanent loan to the United States
	2. Library of Congress Non-[illegible] Trust Fund Accounts	(1) funds received as gifts for immediate expenditure (2) receipts from sale or photo-duplication of materials financed from capital received as gifts (3) income from investments held by Library of Congress Trust Fund Board (4) interest 4% per annum on permanent loan funds
	3. United States Tax Court Tax Court Judges Survivors Annuity Fund	(1) 3% of salary or retired pay of participating judges (2) additional funds as required from Tax Court appropriations
Judiciary	4. Juciciary Judicial Survivors' Annuity Fund	
Executive	5. Foreign Military Sales Advances Trust Fund	(1) advances on sales as defense articles (2) appropriation
	6. Foreign Assistance Technical Assistance Trust Fund	(1) funds advances by foreign gov'ts to pay for non-military material or service under bilateral agreements (U.S. dollars)

Branch or Agency		Trust Funds		Source of Funding
	..	International Foreign Currency Schedule	(1)	foreign currency advanced for technical assistance pursuant to bilateral agreements to pay administrative and program expenses
	8.	Office of Economic Opportunity (OEO)	(1)	gifts, bequests and voluntary contributions
Agriculture	9.	Agricultural Research Services, Miscellaneous	(1)	miscellaneous contributed funds from states, local organizations, individuals and others
			(2)	expenses, feed, and attendants for animals, in quarantine from importers (fees paid to fund) (transferred 1972)
			(3)	expenses and refunds, inspection, certification and quarantine of animal products and byproducts (fees paid to fund) (transferred 1972)
	10.	Animal and Plant Health Inspection Service, Misc. Trust Funds	(1)	miscellaneous contributed funds, states, local organizations, individuals
			(2)	inspection fees, refunds, certification fees for inspection of products both for human consumption and to control animal or plant diseases
			(3)	fees from importers for feed, attendants and expenses of quarantined animals

Branch or Agency	Trust Funds	Source of Funding
	11. Cooperative State Research Service, Miscellaneous Trust Funds	(1) miscellaneous funds from State, local organizations and others available for work under co-operative agreements
	12. Statistical Reporting Service, Miscellaneous Trust Funds	(1) miscellaneous funds received from State and local organizations for crop and livestock survey work under co-operative agreements.
	13. Economic Research Service, Miscellaneous Trust Funds	Id.
	14. Farmer Co-operative Service, Miscellaneous Trust Funds	Id.
	15. Farmers Home Administration (FHA) Miscellaneous Trust Funds	(1) funds received from borrowers for credit reports
	16. Soil Conservation Service Miscellaneous Trust Funds	(1) miscellaneous contributed funds
	17. Agricultural Marketing Service Trust Funds	(1) fees from inspection and grading of farm products (largest share is fees from users) (2) ltd. appropriation
	18. Milk Market Orders Assessment Fund	(1) handler assessments from regulated prices that handlers are required to pay producers

Branch or Agency	Trust Funds	Source of Funding
	19. Forest Service Cooperative Work Trust Funds	(1) advances, deposits on purchasing timber, forest protection work
Commerce	20. Department of Commerce Gifts and Bequests Trust Fund	(1) gifts and bequests (2) contributions from private sources for National Bureau of Standards
	21. Department of Commerce Special Studies, Services and Projects Trust Fund	(1) expenses charged for obtaining public information
	22. Business Economics and Statistics, Special Studies Services and Projects Trust Fund	(1) funds received from special statistical work and data analyses from State, local governments and trade agencies and associations, universities, and individuals (2) age and citizenship data furnished, and fees collected for this service
	23. Regional Action Planning Commission Trust Funds	(1) grants from Department of Commerce
	24. Promotion of Industry and Commerce Contributions, Educational and Exchange Trust Funds	(1) contributions from commercial exhibitors participating in trade and industrial exhibits, trade centers and other overseas trade promotions

Branch or Agency		Trust Funds		Source of Funding
	25.	Promotion of Industry and Commerce Special Studies Services and Projects Trust Fund	(1)	fees from market studies, market analyses, statistical reports, special information services, Government conducted trade seminars
	26.	Science and Technology National Oceanic and Atmospheric Administration Miscellaneous Trust Funds (N.O.A.A.)	(1)	contributions from individuals and firms participating in the National Marine Fisheries Services program for inspecting and grading fish products
			(2)	payments from non-governmental interests for performance of special studies
			(3)	contributed funds from State, local governments and local organizations and individuals for work done by National Marine Fisheries Service
	27.	Science and Technology Patent Office, National Bureau of Standards, National Technical Information Service Office of Telecommunications Information Products and Services Trust Fund	(1)	fees from preparation of transcripts from technical and scientific reports, studies tables and other research material and from subsequent reproduction and dissemination
Defense	28.	Army Trust Fund	(1)	gifts and bequests limited to specific purposes
			(2)	gifts and bequests not limited to specific purposes

Branch or Agency		Trust Funds		Source of Funding
	29.	Navy Trust Funds	(1)	gifts and contributions for the benefit of the Naval Academy and Naval Academy Museum and general gifts to other naval institutions (3 separate funds)
			(2)	profits earned in operation of ships stores
			(3)	gifts of money for the benefit of the Office of Naval Records and History and royalties from sales of histories of U. S. Naval Operations.
	30.	Department of the Air Force General Gifts Trust Funds	(1)	gifts and bequests some of which have been limited to specific uses
	31.	Army Sales of Commissary Stores Surcharge Collections Trust Fund	(1)	funds from surcharges reimburse appropriations for the operations of commissary stores of the Army for equipment and supplies
	32.	Navy Revolving Trust Funds	(1)	funds collected from sales by midshipman's stores, including operation of the Naval Academy Dairy Farm, cobbler, barber and tailor facilities for midshipmen
	33.	Air Force Trust Revolving Funds	(1)	surcharges on sales of commissary stores
			(2)	cadet pay at U. S. Air Force Academy deposited into account and disbursements are made against it

Branch or Agency		Trust Funds		Source of Funding
	34.	Corps of Engineers Civil Trust Funds		
	35.	Soldiers' and Airmen's Home Trust Funds	(1)	receipts from fines, forfeitures and stoppages of pay of regular enlisted personnel of the Army and Air Force
			(2)	withholding 10 cents per month from such personnel
			(3)	estates of deceased soldiers and airmen sales
			(4)	interest 3% on fund balance
	36.	Soldiers' and Airmen's Revolving Trust Funds	(1)	reimbursements for purchases of household maintenance, office supplies and minor equipment
	37.	Public Health Service Trust Fund	(1)	gifts to Public Health Service some of which are limited to specific uses
	38.	Office of Education Special Statistical Compilations and Survey's Trust Fund	(1)	fees for furnishing office's statistical data
			(2)	fees for special surveys for State, local officials or private individuals or groups
H.E.W.	39.	Refugee Assistance Gifts and Donations Trust Fund	(1)	gifts on behalf of those designated as refugees by the President

Branch or Agency	Trust Funds	Source of Funding
	40. Social Security Administration Old Age and Survivors Trust Fund	(1) contributions made by workers employers and self-employed individuals based on earnings
	41. Social Security Administration, Federal Disability Insurance Trust Fund	(1) contributions made by workers, employers and self-employed individuals based on earnings
	42. Social Security Administration Health Insurance Trust Funds, Hospital Insurance Trust Fund	(1) contributions made by workers, employers, and self-employed individuals based on earnings
	43. Social Security Administration, Supplementary Medical Insurance Trust Fund	(1) contributions made by workers, employers and self-employed individuals based on earnings
	44. Social Security Administration, Supplemental Security Income Trust Fund	(1) contributions made by workers, employers and self-employed individuals based on earnings (to become effective 1/1/74)
Interior	45. Bureau of Land Management Trust Funds	(1) funds from users of federal range for administration, use, protection of federal range, contributions for surveys access roads (2) advances from individuals for costs incident to survey of lands (3) amounts received from sale of Alaskan town lots
	46. Indian Tribal Trust Funds	

Branch or Agency	Trust Funds	Source of Funding
	47. Bureau of Indian Affairs Miscellaneous Trust Funds	(1) miscellaneous revenues derived from Indian reservations, agencies, schools (2) funds contributed for Indian projects to be used for the benefit of the American Indians (gifts, bequests and donations) (3) bequest G. C. Edgeter income to be used for relief of American Indians
	48. Bureau of Outdoor Recreation Contributed Funds Trust Fund	(1) contributions from non-federal entities for work of Bureau
	49. Bureau of Mines Contributed Funds Trust Funds	(1) funds contributed by States, counties, municipalities and private sources used to conduct research and investigation and promote conservation and development of mineral resources
	50. Office of Coal Research Bureau of Mines, Contributed Trust Funds	(1) funds made available by the American Gas Association as its portion of the program for accelerated research and development of high-B.T.U. gasification processes
	51. Bureau of Sport Fisheries and Wildlife Contribution Funds Trust Fund	(1) funds donated by private individuals, organizations and public institutions to support various fish and wildlife programs

Branch or Agency	Trust Funds	Source of Funding
	52. National Park Service Trust Funds	(1) donations for purposes of National Parks System (2) advances from D. C. National Park Service received prior to 1971 (3) endowment fund of Abraham Lincoln Farm Association for preservation of Lincoln's birthplace (4) contributions for Jefferson National Expansion Memorial National Historic Site
	53. Bureau of Reclamation, Reclamation Trust Fund	(1) funds provided to make investigations or to add features to Bureau's projects when requested and financed by entities
	54. Bonneville Power Administration Trust Fund	(1) funds by non federal entities for construction, maintenance and operation of transmission facilities, trust agreements for purchase of interruphibic replacement energy for industrial customers
	55. Department of the Interior Co-operation with Foreign Agencies Trust Funds	(1) funds provided by Saudi Arabia to finance construction of dual-purpose desalting plant in Saudi Arabia

Branch or Agency	Trust Funds	Source of Funding
Justice	56. Federal Prisons System, Bureau of Prisons Federal Prison Commissary Funds	(1) profits from sales made to inmates of federal prisons
Labor	57. Unemployment Trust Funds	(1) tax receipts from State payroll taxes (2) federal tax on employers 0.5% of first $4,200 of wages
	58. Employment Standards Administration Special Workman's Compensation Expenses Trust Funds	(1) funds received from employers for compensation for the death of an employee where there are no survivors and fines and penalty payments
	59. Bureau of Labor Statistics, Special Statistical Work Trust Funds	(1) funds advanced from sources outside the federal government to finance special statistical studies
State	60. Department of State Foreign Service Retirement and Disability Fund	(1) contributions from participants of 7% of salaries (2) matching government contributions (3) special government payments to such fund (4) interest on investments
	61. Department of State Miscellaneous Permanent Appropriations Trust Fund	(1) unconditional gift fund for gifts without condition in carrying out Department's functions (2) conditional gift fund, funds donated by overseas commissary and miscellaneous services

Branch or Agency	Trust Funds	Source of Funding
	62. Gifts and Bequests Trust Funds National Commission on Educational Scientific and Cultural Co-operation	(1) gifts or bequests used to carry out authorized educational, scientific and cultural purposes of the U.S. National Commission for U.N.E.S.C.O.
	63. Educational Exchange Trust Funds	(1) funds advanced from foreign governments to send experts abroad or train nationals here (2) funds from foreign governments, international organizations, groups and individuals
Transportation	64. Department of Transportation, Gifts and Donations Trust Fund	(1) donations to be used for transportation activities
	65. Coast Guard General Gift Fund (Trust Account)	(1) gifts and bequests for Coast Guard as directed by donor in connection with Coast Guard training program
	66. Coast Guard Cadet Fund Revolving Trust Fund	(1) funds of Coast Guard Academy Athletic Association (2) personal funds (pay) of Coast Guard Cadets
	67. Coast Guard Sales of Commissary Stores Surcharges Trust Revolving Fund	(1) surcharges' on sales to authorized store patrons

Branch or Agency	Trust Funds	Source of Funding
	68. Federal Aviation Administration Airport and Airways Trust Fund	(1) aviation fuel taxes (2) aircraft tires, and tubes taxes (3) aircraft use tax (4) international passenger tax (5) waybill tax (6) passenger ticket tax
	69. Federal Highway Administration Highways Trust Funds	(1) gasoline tax, bus, truck and trailer taxes (2) diesel fuel taxes (3) lubricating oil taxes (4) use tax on certain vehicles (5) truck parts and accessories tax (6) interest on investments
	70. Federal Highway Administration, Other Trust Funds	(1) contributions for highway research programs, tests of equipment (2) contributions received from States and counties in connection with survey maintenance and construction projects for forest highways (3) technical assistance rendered in purchase of material and carrying out of technical assistance to foreign governments (4) advances from State co-operating agencies or local subdivisions for construction and maintenance of bridges and roads

Branch or Agency	Trust Funds	Source of Funding
	71. Federal National Transportation Safety Board Donations Trust Funds	(1) donations received in connection with aircraft accident investigation work
Treasury	72. Department of Treasury Pershing Hall Memorial Trust Fund	(1) earnings of principal of fund invested in U.S. securities (bonds) (proposal to liquidate)
	73. Bureau of Accounts Trust Funds	(1) amount sufficient to cover difference between the value of gold carried in the general accounts of the Treasurer and value after melting and refining (2) national defense conditional trust fund gifts of money or intangible to be used for particular defense purpose (3) gift to the United States under will of Esther C. Schmitt
	74. Bureau of Customs Abandoned and Seized Goods, Refunds, Expenses, Transfers Trust Funds	(1) all proceeds of the sale of abandoned and seized goods and miscellaneous receipts
	75. Comptroller of the Currency Trust Funds	(1) assessments on national banks (2) interest on investments in U.S. Government obligations
	76. State and Local Government Fiscal Assistance Trust Fund	(1) proceeds of general revenue sharing in trust funds to be paid out quarterly

Branch or Agency	Trust Funds	Source of Funding
Atomic Energy Commission	77. Atomic Energy Commission Advances for Co-Operative Work Trust Funds (AEC)	(1) funds from Washington Public Power Supply System to pay for services furnished by AEC in connection with plant and facilities of reactor Mt. Richland Washington
Environmental Protection Agency	78. E.P.A. Miscellaneous Trust Funds	(1) miscellaneous contributed fund gifts for programs deposits from pesticide registrants to cover cost of petition hearings
General Services Administration	79. National Archives Trust Fund	(1) fees from copies of records in custody of National Archives (which records are not exempt as confidential or subject to copyright) (2) proceeds from sale of positive copies of microfilm publications, reproductions, and other publications (3) admission fees to presidential library museum rooms
	80. National Archives Gifts Trust Funds	(1) grants and donations for the benefit of the National Archives collections and services
National Aeronautics and Space Administration	81. N.A.S.A. Miscellaneous Trust Funds	(1) funds from foreign governments to allow N.A.S.A. to procure non-military space oriented materials

Branch or Agency	Trust Funds	Source of Funding
Veterans Administration	82. General Post Fund for National Homes	(1) gifts, bequests and proceeds of sale of property left in care of facilities by former beneficiaries who die (2) patients fund balances (3) sale of effects of beneficiaries who die leaving no heirs and without otherwise disposing of their estate
	83. National Service Life Insurance Trust Fund	(1) premium payments, receipts (2) interest from investments (3) indemnity for claims resulting from extra hazard and certain policies held by personnel on active duty
	84. United States Government Life Insurance Trust Fund	(1) premium payments (2) interest on investments (3) payments from the appropriation for claims resulting from the extra hazards of the veteran service, and certain policies held by personnel on active military duty
ACTION	85. Action Miscellaneous Trust Funds	(1) miscellaneous funds from gift, bequests and devises as well as funds advanced by foreign governments

Branch or Agency	Trust Funds	Source of Funding
American Battle Monument Comm'n	86. American Battle Monuments Comm'n Trust Funds	(1) funds deposited with Comm'n for purchase of flowers for graves in WWI and WWII cemeteries (2) funds for repair of non-federal (overseas) U.S. War Memorials
Civil Service Commission	87. Civil Service Retirement and Disability Fund	(1) deductions from employee's salaries (2) voluntary contributions contributed from employment by non-federal agencies
	88. Civil Service Employee's Health Benefits Trust Funds	(1) Id., i.e. withholding from active government employees, agency contributions, government contributions
	89. Civil Service Commission Employee's Life Insurance Trust Fund	(1) 27 1/2 cents withheld bi-weekly employee's salaries for each one thousand dollars insurance (2) matching 50% from agency
	90. Civil Service Commission Retired Employee Health Benefits Program Trust Fund	(1) contributions from government sponsored plan (employee) (2) contributions from government
Federal Deposit Insurance Corporation	91. Federal Deposit Insurance Corporation Trust Fund	(1) insurance assessments paid by insured banks (2) interest on investments U.S. government securities

Branch or Agency	Trust Funds		Source of Funding	
Historical and Memorial Commission	92.	Historical and Memorial Commission Trust Funds	(1) (2)	gifts and donations grants for projects
	93.	Historical and Memorial Commission Miscellaneous Trust Funds	(1)	donations made to centennial commissions
Intergovernmental Agencies	94.	Advisory Commission on Inter-governmental Relations	(1) (2)	contributions from State and local governments for clearing-house activities payments from non-profit organizations
Appalachian Regional Commission	95.	Appalachian Regional Commission Miscellaneous Trust Funds	(1)	State's advance funds for their share of commission's costs
National Capital Planning Commission	96.	National Capital Planning Commission Advances Trust Fund	(1)	advances from District government for urban renewal projects
National Foundation on Arts and Humanities	97.	National Foundation on Arts and Humanities Trust Funds	(1)	money and other donated property which may be used, sold or disposed of
National Science Foundation	98.	National Science Foundation Donations Trust Funds	(1)	donations and gifts to further general purposes of foundation

Branch or Agency		Trust Funds		Source of Funding
Railroad Retirement Board	99.	Railroad Retirement Board Railroad Retirement Accounts	(1) (2) (3)	taxes paid by railroad employees taxes paid by railroad employers payments from Federal OASI fund and Federal DI fund
Smithsonian	100.	Smithsonian Institution Trust Funds	(1) (2)	National Zoological Park fund - gifts and donations Canal Zone biological Research Area
Temporary Study Commission	101.	Aviation Advisory Commission Trust Fund		
	102.	Joint Federal-State Land Use Planning Commission for Alaska Co-Operative Trust Funds	(1)	contributions by State of Alaska to Commission
United States Information Agency	103.	United States Information Agency Trust Funds	(1) (2) (3)	funds from foreign government and private organizations for films or destroyed U.S.I.A. property special international programs (funds from private sources) funds from non-federal source for shipping boats, etc.
Water Resources Council	104.	Water Resources Council River Basin Commissions Trust Funds	(1)	contributions from States for operations of river basin planning commissions

SECTION VIII

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